

# Exhibit 1

UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

---

ORACLE, INC.

Plaintiff,

v.

GOOGLE INC.,

Defendant.

---

)  
)  
)  
)  
)  
)  
)  
)  
)  
)  
)

Case No. CV 10-03561 WHA

HIGHLY CONFIDENTIAL

REPLY EXPERT REPORT OF DR. GREGORY K. LEONARD  
IN RESPONSE TO EXPERT REPORT OF PROFESSOR JAMES R. KEARL

## Contents

Contents .....	1
I. Qualifications .....	2
II. Assignment and Materials Considered .....	2
III. Opinions .....	2
A. Broad Areas of Agreement .....	2
B. Search Ad TAC .....	3
C. OpenJDK .....	4
D. The Number of Available Android Applications Is Not Itself Important.....	7
E. Apps Used in My Analysis .....	11
F. Google's Ability to Pick "Winners" Ex Ante .....	12
G. Training Developers in an Alternative Language is Easy .....	14
H. Share Loss Estimates Based on the Kim Model .....	16
I. Share Loss Estimate Based on the Shugan Survey.....	20
J. Oracle's Lost Profits Claim .....	22
K. Top Down Apportionment .....	24
L. Development Lag Analysis .....	25
M. The Kim Model .....	26

## **I. Qualifications**

1. My qualifications are as described in my February 8, 2016 Expert Report ("Leonard Report"). I also submitted a rebuttal report on February 29, 2016 ("Leonard Rebuttal Report").

## **II. Assignment and Materials Considered**

2. I have been asked by Google to review and respond to the Expert Report of Professor James R. Kearl, dated March 18, 2016 ("Kearl Report"), and corrected on March 21, 2016 ("Corrected Kearl Report").

3. In addition to the materials I considered in preparing the Leonard Report and Leonard Rebuttal Report, I reviewed the materials cited in the Kearl Report, and materials cited in this report.

4. Regarding my anticipated trial testimony in this action, I may use as exhibits various documents or other materials relevant to the issues addressed in this report. I also reserve the right to use demonstrative exhibits, enlargements of actual exhibits, animations and any other kind of information in order to convey my opinions. I reserve the right to supplement my report, for example, if additional information becomes available.

## **III. Opinions**

### **A. Broad Areas of Agreement**

5. Dr. Kearl and I largely agree on the basic methodologies for the calculation of what I term "bottom up" apportionment<sup>1</sup> and for the calculation of Oracle's lost profits. Dr. Kearl and I also

---

<sup>1</sup> With regards to my bottom up apportionment approach where I have applied the Kim (2013) empirical model, Dr. Kearl describes his application of this approach, with his adjustments, as his "preferred methodology" or one of his "recommended approaches:" "...my preferred methodology would be along the lines of Dr. Leonard, in which you look at the change in market share attributable to something that -- attributable to the change in - - in the number of apps available, and to the degree that the jury believes that that number of apps available was dependent on the 37 APIs, then I think you have a better way of measuring the contribution of the 37 APIs. And that's the approach that I have taken in what I've called my recommended approaches." (Deposition of James R. Kearl, March 23, 2016, p. 147.)

agree on the calculation of Android-related profits. Despite these broad and important areas of agreement, there are several areas related to implementation of the methodologies where I disagree with Dr. Kearl. This being a reply report, I focus here mainly on these areas of disagreement.

**B. Search Ad TAC**

6. However, I start with clarifying information regarding the payment of TAC for search ads placed on Android. Dr. Kearl identified this issue as an area of factual dispute in the case, noting that there is disagreement between my analysis and the analysis of Oracle's expert James Malackowski regarding how Google accounts for search ad TAC payments for Android.<sup>2</sup>

7. In response to Dr. Kearl's commentary on and analysis of this dispute, I have double-checked with Jonathan Gold of Google to confirm the following. First, Google does not, in fact, include search ad TAC for Android in the line items on the Android P&L statement regarding digital content or app cost of sales. In fact, only revenue sharing payments related to digital content or app purchases are included in the digital content and app cost of sales. Second, search ad TAC for Android is included in the Google-wide Adwords TAC line, as I stated in the Leonard Report. Third, Google may pay the carrier, the OEM, or neither the carrier nor the OEM TAC for search ads served through an Android device, depending on the contractual arrangements with the relevant carrier and OEM. Google negotiates with each carrier and OEM separately on this issue, and there is no formula that governs its payment of search TAC on Android devices.<sup>3</sup>

8. The dispute Dr. Kearl identifies regarding search ad TAC payments,<sup>4</sup> stems in part from evidence of the TAC payments that Google makes to "Non-Android Mobile Operating System Partners," as provided in the document "Charts per Dkt 1436." However, the "Charts per Dkt 1436" document was

---

<sup>2</sup> Corrected Kearl Report ¶¶ 25-27.

<sup>3</sup> Interview of Jonathan Gold.

<sup>4</sup> See also Corrected Responsive Expert Report of James E. Malackowski, February 29, 2016, ¶¶ 65-72.

created by Google in response to a Court order in this case, which order specifically instructed that the document should contain Google gross revenue amounts. Mr. Gold confirmed to me that Google complied with the Court's order, and that the information contained in the "Charts per Dkt 1436" document represents Google's gross revenue. The confusion and dispute regarding this issue thus results from Oracle's mistaken assumption that the data in the document represent Google's net revenue. As a result of this mistake, Oracle performed a number of adjustments: (1) taking the "Total Gross Revenue Earned by Google under the Agreement," (2) dividing it by one minus the "% of Search Revenue Google Shares with the Provider Pursuant to the Agreement," and (3) then multiplying the result by the "% of Search Revenue Google Shares with the Provider Pursuant to the Agreement." The resulting calculation purports to represent the TAC payments that Google makes to "Non-Android Mobile Operating System Partners," but is incorrect and misguided, because the adjustments were designed to "gross up" Google's gross revenues, which is unnecessary because, as noted, the source document already represents gross revenue. The correct calculation would have been to just multiply Google's gross revenue by the percentage of search revenue that Google shares with the partner under the agreement.<sup>5</sup>

### **C. OpenJDK**

9. Dr. Kearl states that the fact that Google only recently switched to the OpenJDK versions of the 37 APIs and chose not to use the OpenJDK versions when it was developing Android "suggests that Google must have believed that the actual and expected costs of using OpenJDK were substantial."<sup>6</sup> I disagree. First, in terms of the incremental engineering costs of OpenJDK, Google has now actually incurred those costs in the course of implementing that solution, and Google's actual experience shows that its engineering costs were minimal, as I stated in the Leonard Report. Second, although Dr. Kearl

---

<sup>5</sup> Interview of Jonathan Gold.

<sup>6</sup> Corrected Kearl Report ¶ 45.

suggests that the OpenJDK solution might have been objectionable to OEMs had Google adopted it in 2007, I am unaware of any evidence showing that any OEM or carrier has objected to Google incorporating OpenJDK material into Android in 2015. Third, prior to this lawsuit being brought in 2010, and the subsequent development of Oracle's theories of copyright infringement prior to the April 2012 trial, Google did not have reason to believe that it would be accused of infringing the material at issue in this case—the SSO and declaring code of the 37 Java SE APIs. None of the Google documents predating the release of Android (or the filing of this lawsuit) discuss copyright issues regarding the SSO and declaring code, or any need by Google to take a license to that material. As Sun's own CEO, Jonathan Schwartz, testified in the first trial, Sun considered its APIs to be open, and encouraged their use throughout the industry, with Sun and others competing on implementations.<sup>7</sup> Thus, up until that point, Google had no reason to consider using the OpenJDK versions, whether during Android development or afterwards. In the absence of any understanding that the SSO and declaring code of the 37 Java SE API packages was protected by copyright, it would not have made economic sense for Google to accept that license and use Sun's implementing code for the 37 Java SE API packages when Sun released OpenJDK in May 2007. At that time, Google had already spent substantial engineering time and costs developing its own implementing code for those API packages and had no need for Sun's implementing code. In May 2012, Google prevailed on the copyright part of the case, with this Court concluding that the SSO and declaring code was not subject to copyright protection. Thus, until the Federal Circuit decision in early 2014, Google had no reason to believe that the SSO and declaring code used in Android was copyrighted. Even after the Federal Circuit decision, Google pursued review of that decision in the United States Supreme Court. After the Supreme Court denied Google's petition for review, Google

---

<sup>7</sup> Trial Tr. at 1962-1965 (Schwartz). Dr. Kearl claims that Sun did not approve of Android because Sun did not know how Android used the SSO and declaring code of the 37 APIs. (Deposition of James R. Kearl, March 23, 2016, pp. 42-45.) This is incorrect because (1) the Android codebase was released in late 2007, at which point Sun did know, and (2) as described in the text, what Google did was exactly in line with what Mr. Schwartz said Sun approved of—using the SSO/declaring code but competing on implementations.

quickly made the switch as described in the Leonard Report. There is no inconsistency between Google's actions and the proposition that the costs of switching to OpenJDK are (or would have been) minimal.

10. Dr. Kearl testified that, in his opinion, Google's decision to use the SSO and declaring code of the 37 Java SE API packages demonstrates by "revealed preference" that they were "important."<sup>8</sup> However, this reasoning is incorrect. As discussed in the Leonard Report, Google's decision to use the Java programming language, rather than another language such as C++, was a close call.<sup>9</sup> Thus, Google's "preference" for Java was slight, and any "preference" for the 37 Java SE API packages even slighter. This implies, to the contrary, that the 37 Java SE APIs were not particularly important, because a good substitute existed. Dr. Kearl also testified that it is his opinion that app developers' use of the SSO and declaring code from the 37 Java SE API packages demonstrates by revealed preference that this material was important.<sup>10</sup> Again, this is incorrect. Once Google had chosen to use the Java language, and thus to incorporate the SSO and declaring code from the 37 Java SE API packages into Android, given the basic functionality that those 37 API packages provide, it is not surprising that app developers then use them. Had Google chosen to use C++ or another language (exclusively) instead, app developers instead would have used the basic functionality of the corresponding APIs associated with C++ or another language.

---

<sup>8</sup> Deposition of James R. Kearl, March 23, 2016, pp. 31-33.

<sup>9</sup> Rubin 4/5/2011 Dep., pp. 22-24; Trial Tr. 1597-98 (Rubin); Trial Tr. 1812-1813 (Daniel Bornstein); Mr. Ghuloum testified that to switch out the 37 APIs at issue today and replace them with C or C++ "wouldn't take much time at all," to replace them with RenderScript would take a single engineer six to 12 months, and to replace them with JavaScript would take substantially less than for RenderScript (Ghuloum 12/9/2012 Dep., pp. 74-76, 86).

<sup>10</sup> Deposition of James R. Kearl, March 23, 2016, pp. 31-33.



**D. The Number of Available Android Applications Is Not Itself Important**

11. Dr. Kearl repeatedly states that my analysis did not address “the Oracle theory” that “a large number of apps was important to the acceptance of a new smartphone platform such as Android. Thus, it is not (only) the availability of the most popular apps that is important, smartphone users also care about the number of other less popular apps.”<sup>11</sup> I disagree with Dr. Kearl’s contention that I did not address this theory. I did address it—by demonstrating that the “theory” is wrong, as discussed below.

12. Dr. Kearl claims that there is evidence to support the proposition that the number of apps matters, citing the Malackowski and Jaffe reports and Dr. Kearl’s previous report in this matter.<sup>12</sup> However, a review of the material Mr. Malackowski, Dr. Jaffe, and Dr. Kearl cite reveals that Dr. Kearl’s claim is not well supported. First, Mr. Malackowski, Dr. Jaffe, and Dr. Kearl cite no economic study of Android users that shows that they care about the total number of apps as opposed to high value apps, because the existing studies in fact show the opposite. Nor do they conduct their own analysis to support the proposition that the total number of apps matters. Instead, they cite trade press and Google documents. However, these trade press articles and Google documents do not provide sufficient support for Dr. Kearl’s claim because (1) some actually support the opposite position from what Dr. Kearl claims (e.g., some of the documents talk about “compelling content,” i.e., value of

---

<sup>11</sup> Corrected Kearl Report ¶ 49. See also Deposition of James R. Kearl, March 23, 2016, p. 18 for Dr. Kearl’s understanding of “the Oracle theory.”

<sup>12</sup> Dr. Kearl states: “[T]here appears to be good evidence that consumers and [OEMs], as well as Google, placed value on the number of applications available on the Android platform.” (Corrected Kearl Report ¶ 19; Deposition of James R. Kearl, March 23, 2016, p. 28.) As I discuss, the evidence as well as economic research demonstrates the opposite. There is even less evidence that consumers or OEMs placed any value on the 37 APIs as a driver of a larger number of available Android applications. For example, Samsung, the largest Android handset OEM, chose C++ as the applications programming language for Bada, its own mobile operating system that was launched at around the same time as Android. If Samsung thought the 37 APIs (or Java) was important, it would not have chosen to use C++. Dr. Kearl also acknowledges that he is not aware of any evidence that the SSO of the 37 accused APIs have a significant impact on app development or the number of apps. (Deposition of James R. Kearl, March 23, 2016, pp. 101-102.)

apps),<sup>13</sup> (2) some of the documents do not even address the claim at all,<sup>14</sup> and (3) the set of citations are incomplete because they do not include cites that contradict the proposition (e.g., trade articles that assert that “it’s not the number of apps that matters, it’s having the \*right\* apps” that matters).<sup>15</sup>

13. Furthermore, Dr. Kearl says he does “not endorse or reject the Oracle theory,”<sup>16</sup> presumably because of the lack of evidence supporting it. But given the lack of supporting evidence, and the contrary evidence cited in the Leonard Report, it is not clear why he thinks I needed to address it in greater detail.<sup>17</sup>

---

<sup>13</sup> For instance, Mr. Rutledge stated in his deposition that: “My understanding of why we would want to increase the volume of apps in the Android market is to increase the market share of devices by having compelling content for those devices.” (Rutledge Dep. 12/9/2015, p. 76.); “Strategy Analytics believes that those app stores that differentiate themselves in the marketplace and offer exclusive content and a compelling user experience will create the strongest emotional connection to the mobile device by providing a tailored experience to individual members of an increasingly differentiated long-tail customer base. This will ultimately drive much stronger customer loyalty to the device platform than non-tailored offerings.” See “Do App Stores Impact Wireless Device Sales?” Strategy Analytics, October 18, 2010, [https://www.strategyanalytics.com/strategy-analytics/blogs/media-services/media-services-ux/media-and-services-ux/2010/10/18/do-app-stores-impact-wireless-device-sales-#.Vh0dY\\_IVhBc](https://www.strategyanalytics.com/strategy-analytics/blogs/media-services/media-services-ux/media-and-services-ux/2010/10/18/do-app-stores-impact-wireless-device-sales-#.Vh0dY_IVhBc).

<sup>14</sup> For example, GOOGLE-00303867 at 874; “How Important Are Specs In A Smartphone?” Cell Phone News, Reviews, and How Tos Phone Buff, January 21, 2012, <http://www.phonebuff.com/2012/01/important-specs-smartphone/>; “How to Pick Your Next Android Phone: The Specs That Matter (and the Ones That Don’t).” Lifehacker, Tips and Downloads for Getting Things Done. January 19, 2011, <http://lifehacker.com/5737659/how-to-pick-your-next-android-phone-the-specs-that-matter-and-the-onesthat-dont>.

<sup>15</sup> “Top 100 Apps Availability on iOS, Android, Windows Phone & Windows 8,” Infragistics, August 6, 2013, <http://www.infragistics.com/community/blogs/nick-landry/archive/2013/08/06/top-100-apps-availability-on-ios-android-windows-phone-amp-windows-8.aspx>; “The main point is that another 1,000 or 10,000 or 100,000 apps won’t solve the relatively minor inconsistencies across platforms for me, nor do I suspect that the vast majority of apps out there are going to make that much a difference in influencing whether someone buys iOS or Android or Windows Phone.” (“Does An App Store’s Size Matter if Content is the Killer App?” CNET, July 13, 2012, <http://www.cnet.com/news/does-an-app-stores-size-matter-if-content-is-the-killer-app/>.)

<sup>16</sup> Corrected Kearl Report ¶ 49.

<sup>17</sup> Dr. Kearl points to an example of a (presumably hypothetical) backcountry skiing app that only a few people care about, but care about a lot. (Corrected Kearl Report ¶ 51.) However, Dr. Kearl points to no evidence that there are a significant number of such apps, let alone that any significant number of end users’ purchasing decisions are based solely on such apps. Furthermore, Dr. Kearl does not “know of any evidence that’s tested whether or not having lots of apps that appear to specific interests matters.” (Deposition of James R. Kearl, March 23, 2016, pp. 78-79, 81.) Dr. Kearl also states that he is not aware of any evidence that the SSO of the 37 accused APIs allowed “miscellaneous” apps to be developed quicker. (Deposition of James R. Kearl, March 23, 2016, pp. 101-102.)

14. In the Leonard Report, I discussed extensively how there are a small number of apps that are valuable and a much larger number of apps that are rarely downloaded and not very valuable, either to consumers or to the platform owner.<sup>18</sup> This conclusion is consistent with economic research done in this area. For example, Bresnahan, et al. state:<sup>19</sup>

- “from a consumer perspective apps are highly skewed in their attractiveness” (p. 6)
- “most apps reach[] few users and a very few apps reach[] almost all users. Very few apps are providing most of the value for either platform [iPhone or Android].” (p. 12)
- “The contribution to app attractiveness of those apps too unpopular to be in our sample can safely be neglected.” (p. 25)
- “this distribution of app attractiveness to consumers is skewed, with a small minority of apps drawing the vast majority of consumer demand” (p. 28)
- “the presence or absence of apps offers little reason for consumers to choose a platform” (p. 28)

15. Dr. Kim directly tested whether the total number of apps mattered to users, conditional on accounting for the value of apps.<sup>20</sup> She found that the total number of apps does not matter, stating “the total number of apps does not have any explanatory power once the expected utility from apps is

---

<sup>18</sup> Corrected Leonard Report, February 8, 2016, ¶¶ 123-139, 172.

<sup>19</sup> “Platform Choice by Mobile App Developers,” T. Bresnahan, et al., Stanford University, May 29, 2014.

<sup>20</sup> In response to the question—Dr. Kearl, what evidence would you expect to see if Oracle is correct that a proliferation of the number of apps leads to user adoption?—Dr. Kearl responds:

I’m not sure I – a question about expect to see is – is fair. But the – the kind of evidence that I would suppose would be in the record of statement by the Google executives and Android developers about the importance of applications or statements by them about the importance of things that were clearly directed at applications, which I think the 37 APSS, at least allegedly, are the kind of evidence that an economist would like to see, I suppose, is something like the Kim evidence, in which – and this is not a blessing of Kim – but just to say the general question that she asks about whether or not market share depends upon the availability of apps is the kind of evidence that an economist would – would want to look at. (Deposition of James R. Kearl, March 23, 2016, p. 89.)

Thus, Dr. Kearl agrees that the question being asked by Dr. Kim is relevant to assessing the importance of the number of apps to user adoption and the acceptance of a mobile platform.

accounted for.”<sup>21</sup> In his deposition, Dr. Kearl was mistaken on this point, stating that Dr. Kim’s use of a “weighted” sum of top apps somehow mandated this outcome.<sup>22</sup> This is incorrect. In testing this question, Dr. Kim included two separate variables in the model to test the question of whether the total number of apps mattered: (1) the weighted sum of the top apps, and (2) the unweighted sum of all apps. Because this second variable was unweighted and included all apps, it addresses precisely Dr. Kearl’s concerns. The conclusion drawn from Dr. Kim’s test is that the total number of apps does not matter.

16. It is also informative to study what happened during the first two years of Android’s life, as I did in the Leonard Report.<sup>23</sup> As discussed there, available Android apps remained at low levels for more than a year after the first Android device was launched in late 2008. This was because app developers care about the number of users on a given platform, a conclusion also supported by the survey of app developers performed in this case by Dr. Simonson.<sup>24</sup> Between late 2008 and late 2009, Android users were at low levels in large part due to the operating system being available only on a single device with T-Mobile. It was only after additional Android devices were launched by additional OEMs and on additional wireless carriers, starting in late 2009, that the Android user base started growing, and it was only after users started growing that developer activity and available apps increased. This is important because it directly contradicts Oracle’s causal claim that Android users were driven by available apps, at least in the early stages of Android’s life. In fact, users were driven by devices and carrier availability; apps, in turn, were driven by users. It also demonstrates that Android was able to get the ball rolling with users despite having relatively few apps, and it was only after that

---

<sup>21</sup> M.J. Kim, Essays on the Economics of the Smartphone and Application Industry, University of Minnesota, Ph.D. Thesis (2013), p. 43.

<sup>22</sup> Deposition of James R. Kearl, March 23, 2016, pp. 76-78.

<sup>23</sup> Corrected Leonard Report, February 8, 2016, ¶¶ 162-168.

<sup>24</sup> Simonson Report, February 8, 2016, ¶¶ 12, 47-50.

user growth that Android became an attractive proposition for the vast majority of applications developers, who require a broad user base in order to have an economic incentive to develop applications. Dr. Kearl does not address the early years of the Android platform and the actual data regarding app availability and user behavior. Nor does Dr. Kearl account for the obvious counterexample of iOS, which gained a large user base and then a large base of developers who were willing to write Objective C apps for iOS users. As noted, iOS never used the Java language, much less the specific SSO and declaring code of the 37 Java SE APIs at issue here, which is the material that Oracle contends allowed Google to capture apps developers and thereby caused the success of the Android operating system.

17. For all of these reasons, I conclude that Oracle's theory is demonstrably wrong. I disagree with Dr. Kearl that I should have done more to address a theory that has no factual support and has been rejected in economic studies.

#### **E. Apps Used in My Analysis**

18. Dr. Kearl often refers to the apps I focused on in my analysis as the "Top 100 apps."<sup>25</sup> Although I read Dr. Kearl's report as using this phrase as shorthand and that he understands that I am using many more than 100 apps in my analysis, I want to emphasize that I used any app that appeared in a list of daily top 100 downloaded free apps and daily top 100 downloaded paid apps in the App Annie data even once during the period for which I had data. This encompasses many more than 100 apps—3,647 apps to be precise. When using the comScore data, I used any app that appeared in the top 200 apps by usage in any of the six months for which I had data, which resulted in 428 apps. I then performed an econometric analysis to estimate the number of apps that would have appeared among the top 200 apps over the entire period Android has existed, which resulted in 1,900 apps.

---

<sup>25</sup> See, e.g., Corrected Kearl Report ¶ 49 ("Dr. Leonard focuses on the cost to Google to ensure that the Top 100 apps would be available on Android").

**F. Google's Ability to Pick "Winners" Ex Ante**

19. Dr. Kearl suggests that Google would have had to train more developers or subsidize more app development than I estimated because it would not be known to Google ex ante which apps would turn out to be the valuable apps.<sup>26</sup> In his deposition, Dr. Kearl further states: "And that is, at the launch, at the outset, what were the expectations that Google had about how many apps it needed and how rapidly it needed to have them developed and so on. So it's not the ex post what happened. It's what – presumably what Google thought it needed at launch."<sup>27</sup> Dr. Kearl also states in his deposition that the Kim model suffers from the same ex post problem in that it "focuses on the winning apps, and not sort of the important, but not in the top – top 100 or 200 or 1,000."<sup>28</sup> However, in direct contradiction to these statements, Dr. Kearl states: "And the disgorgement is ex post, that is it looks at, you know, how much Google made from this."<sup>29</sup> I agree with Dr. Kearl that a disgorgement analysis is ex post, but that is one of the reasons why my use of the Kim model is appropriate. Indeed, the disgorgement/unjust enrichment question is how much of the actual (i.e., ex post) profit Google made that should be attributed to the SSO and declaring code of the 37 APIs. The actual profit Google made, in turn, depends on the actual (i.e., ex post) decisions by users to purchase Android handsets, which in turn may have been based in part on the apps actually (i.e., ex post) available and the value of those apps. This is exactly what the Kim model tests by relating users' actual decisions (as reflected in actual

---

<sup>26</sup> Corrected Kearl Report ¶ 50.

<sup>27</sup> Deposition of James R. Kearl, March 23, 2016, p. 59. See also Deposition of James R. Kearl, March 23, 2016, pp. 29-30, 59-62, 66-67, 70-74, 80-81, 155 for Dr. Kearl's discussion regarding his opinion that what matters in addressing "the Oracle theory" of damages is the expected number of apps needed for platform success (ex ante) rather than the actual number of apps that were needed for platform success (ex post).

<sup>28</sup> Deposition of James R. Kearl, March 23, 2016, p. 114.

<sup>29</sup> Deposition of James R. Kearl, March 23, 2016, p. 181. Additionally, Dr. Kearl states: "And – and, second, disgorgement, as I understand the matter, relies on what's happened since. And, you know, four or five years ago, people were looking forward. It was less – you know, Android was not as successful. So the fact that Android has become successful has generated very large profits. It means that the disgorgement damages are really unrelated to what was going on in the first phase." (Deposition of James R. Kearl, March 23, 2016, p. 139.)

market shares) to actual characteristics of Android handsets and the value of Android applications actually available. Moreover, Dr. Kim explicitly tested and found no evidence to support the hypothesis that the total number of apps mattered, as opposed to the ex post value of the apps that appeared (however briefly) on top 100 download lists.

20. Moreover, Google was not operating in an informational vacuum, as Dr. Kearl assumes. Instead, Google was operating in the wake of the iPhone, which was released at the beginning of 2007, nearly two full years prior to the release of the first Android handset at the end of 2008 and nearly three full years prior to the releases of the first broadly successful Android handsets at the end of 2009. In the interim, Apple released several iterations of the iPhone, the iOS platform grew in size, and third-party applications for iPhone became broadly available. Google needed only look at what apps were successful and valued on the iPhone and then seek to offer the same or similar apps on Android.<sup>30</sup> This is particularly true given that the large majority of multi-homed apps were developed first for the iPhone and then ported over to Android.<sup>31</sup> Indeed, the two apps that Dr. Kearl points to—Bubble Mania and Words with Friends—were developed on iOS before Android.<sup>32</sup> Similarly, Google could have looked to see what apps were successful on other platforms, such as Microsoft.

21. In fact, Google actually did look at what apps were successful and try to get the developers to port the apps over to Android.<sup>33</sup> Dr. Kearl does not seem to be aware of this fact, which demonstrates the real-world viability of the strategy I identified in the Leonard Report.

---

<sup>30</sup> Dr. Kearl agrees that Google could have tracked the top iPhone apps and then paid app developers to port these apps over to Android. (Deposition of James R. Kearl, March 23, 2016, pp. 94-95.) Yet, he appears not to have considered this important point when reaching the opinions expressed in his report.

<sup>31</sup> Corrected Leonard Report, February 8, 2016, ¶¶ 112-113, 118. Based on the App Annie data, of the Android apps launched in 2012, 77% were developed for iOS first.

<sup>32</sup> App Annie database.

<sup>33</sup> See, e.g., Deposition of Reto Meier, December 11, 2015, pp. 34 – 36.

## **G. Training Developers in an Alternative Language is Easy**

22. Dr. Kearl appears to think that training developers in C++ would be more difficult or costly than I estimated. But Dr. Kearl appears to assume that the training in question would involve teaching a random programming novice off the street how to program in C++. Although I agree that Google's costs would be higher in that scenario, it is not realistic, would not have been necessary to achieve the desired result, and was not the basis of my opinion. Instead, my opinion was that Google would target for training existing, experienced Java programmers, of which Oracle contends there are a very large number available to do work for Google. Experienced Java programmers, by definition, already know an object-oriented programming language, and, what is more, Java was actually based on C/C++. <sup>34</sup> As I discuss in the Leonard Report, it is highly likely that a significant number of these programmers may already know C++ (many programmers likely learned C or C++ first<sup>35</sup>) and would not need any training at all, given that the average developer develops for multiple platforms,<sup>36</sup> but in any event learning another object-oriented language would not be difficult.<sup>37</sup> Furthermore, as Dr. Kearl understands, companies such as Facebook, Google, and large app developers have "lots of money" and

---

<sup>34</sup> Opening Expert Report of Dr. Astrachan, January 8, 2016, ¶¶ 204-206.

<sup>35</sup> For example, top computer science programs including Stanford, UCLA, and Michigan teach C++ as part of their core curriculum. Other top schools, including Carnegie Mellon and Illinois teach C in core courses. See "Undergraduate Major in Computer Science - Course and Requirement Overview," Stanford University, 2016, <http://cs.stanford.edu/degrees/undergrad/Requirements.shtml#Core>; "Computer Science Program – Engineering Overview of Requirements," University of Michigan, July 27, 2015, [https://www.eecs.umich.edu/eecs/undergraduate/computer-science/cse\\_guide\\_fall\\_2015.pdf](https://www.eecs.umich.edu/eecs/undergraduate/computer-science/cse_guide_fall_2015.pdf); "EECS 280 Fall 2015 Syllabus," University of Michigan, 2015, [https://docs.google.com/document/d/10QsFme0XfypqQLnzPI9L\\_0ayB6mEswPJNZc2VMJcvrg/edit?pref=2&pli=1](https://docs.google.com/document/d/10QsFme0XfypqQLnzPI9L_0ayB6mEswPJNZc2VMJcvrg/edit?pref=2&pli=1); "CS 31: Introduction to Computer Science I," UCLA, 2014, <http://lasr.cs.ucla.edu/vahab/cs31summer14/syllabus.html>; "Curriculum – B.S. in Computer Science, CS 15-122," Carnegie Mellon University, 2015, <http://coursecatalog.web.cmu.edu/schoolofcomputerscience/>; "CS 101 – Intro Computing: Engrg & Sci," University of Illinois, 2016, <https://cs.illinois.edu/courses/profile/CS101>.

<sup>36</sup> Corrected Leonard Report, February 8, 2016, ¶¶ 106-108.

<sup>37</sup> Corrected Leonard Report, February 8, 2016, ¶¶ 107, 144, 162.



“can pay people to do anything, and they can hire a bevy of programmers who are specialized in a particular language and develop lots of apps.”<sup>38</sup>

23. Dr. Kearl points to Mr. Malackowski’s claim that there are more than 1.6 programmers per developer.<sup>39</sup> However, Mr. Malackowski’s only “evidence” to support his claim is that King Digital has 1,600 employees.<sup>40</sup> However, the King Digital reference is misleading. First, King Digital develops for a number of platforms,<sup>41</sup> and it is not clear how many programmers it devotes to Android. In fact, I am able to identify only 18 games developed by King Digital that are available on Google Play for Android users, as compared to over 150 games on other platforms including their partner website Royal Games, Facebook, and the Apple App store.<sup>42</sup> Second, given King Digital develops for other platforms, it is likely that King Digital already has programmers on staff that know C++, so that King Digital may not have required any training to develop Android apps in C++. I note that King Digital’s job description for a Developer states under, “Skills to create thrills,” that King Digital is looking for “Experienced C/C++ developer” and “Experience of Android and IOS development.”<sup>43</sup> Third, not all employees are programmers, let alone programmers that need training.

---

<sup>38</sup> Deposition of James R. Kearl, March 23, 2016, pp. 99-100.

<sup>39</sup> Corrected Kearl Report ¶ 48.

<sup>40</sup> Corrected Responsive Expert Report of James E. Malackowski, February 29, 2016, ¶ 161.

<sup>41</sup> King Digital’s network of 318 million monthly unique users as of fourth quarter 2015 has been able to access the games through its “king.com and royalgames.com websites, Facebook, and mobile distribution platforms such as the Apple App Store, Google Play Store and Amazon Appstore.” (King Digital Entertainment, <http://company.king.com/news-and-media/press-releases/content/press-releases/activision-blizzard-completes-king-acquisition/>.)

<sup>42</sup> Google Play, <https://play.google.com/store/apps/developer?id=King>, accessed March 26, 2016; Royalgames, <http://www.royalgames.com/>; Apple App Store, <https://itunes.apple.com/ca/artist/king.com-limited/id526656015>, accessed March 26, 2016.

<sup>43</sup> “Developer,” King Digital Entertainment, <https://apply.king.com/vacancy/developer-san-francisco/1141/description/>.

#### H. Share Loss Estimates Based on the Kim Model

24. A sensitivity analysis involves changing the value of an input from its original value to an alternative reasonable value and seeing how the results of the calculation change. However, if the input is changed to an unreasonable value, the sensitivity analysis generally will not be informative. In Dr. Kearl's Scenarios 1, 2, and 3, he performs a supposed sensitivity analysis to my share loss estimates based on the Kim model by "systematically" removing certain of my app inclusion criteria for the counterfactual world, and "[b]y sequentially removing these criteria, the number of applications that are available in a counterfactual scenario is reduced."<sup>44</sup> For Scenario 1, Dr. Kearl removes only my Dual-Language Company app inclusion criteria and finds that it "affected very few apps and that there was virtually no difference in any of Dr. Leonard's estimates after removing them."<sup>45</sup> For Scenario 2, Dr. Kearl removes my Dual-Language Company and Dual-Home Company app inclusion criteria, and finds that "[r]educing the number of apps to this level results in Dr. Leonard's model estimating an approximately 8% loss in Android users which results in damages of about \$930 million."<sup>46</sup> Finally, for Dr. Kearl's Scenario 3, Dr. Kearl removes my Dual-Language Company, Dual-Home Company, and Dual-Home app inclusion criteria, resulting in "an approximately 20% loss in Android users and an estimate of damages of more than \$3.5 billion."<sup>47</sup>

25. Although Dr. Kearl characterizes these three scenarios as a "sensitivity test" of my app inclusion criteria,<sup>48</sup> he provides no economic justification for why he chose to alter certain of my app inclusion criteria, or why the alterations he made are economically reasonable. According to Dr. Kearl,

---

<sup>44</sup> Corrected Kearl Report ¶ 67.

<sup>45</sup> Corrected Kearl Report ¶ 68.

<sup>46</sup> Corrected Kearl Report ¶ 69.

<sup>47</sup> Corrected Kearl Report ¶ 70.

<sup>48</sup> Deposition of James R. Kearl, March 23, 2016, pp. 109-111.

“all I did was just disable the – the search – his – his coding for finding the – the fifth category and the fourth category and the third category.”<sup>49</sup> Furthermore, Dr. Kearl states in his report that he is “not asserting a position whether Dr. Leonard’s five criteria make sense with regard to what would be available to a But-For Android phone user, but I do test the sensitivity of his results to the five criteria.”<sup>50</sup> More specific to Scenario 3, in response to the question—“But you’re not taking a position one way or the other as to whether or not that scenario is proven by the facts”—Dr. Kearl responds, “No, I’m not.”<sup>51</sup> Thus, since Dr. Kearl’s sensitivity analysis under his Scenarios 1, 2, and 3 are based only on disabling some of my app inclusion criteria, without economic justification for making those changes or factual support for whether that change could have realistically occurred in the market, I find that Dr. Kearl’s sensitivity analysis is not reasonable or informative.<sup>52</sup>

26. As discussed above, Dr. Kearl’s Scenario 3 is based on his modification to my share loss analysis that removes (i.e., simply disables) my Dual-Language Company, Dual-Home Company, and Dual-Home app inclusion criteria.<sup>53</sup> This results in the removal of 2,344 total apps from my counterfactual.<sup>54</sup> However, given the economic evidence I have reviewed (as summarized in the Leonard Report), for many of the apps Dr. Kearl excludes, it is economically implausible that the developer would not have developed the app in the counterfactual. In the Leonard Report, I discussed

---

<sup>49</sup> Deposition of James R. Kearl, March 23, 2016, p. 111.

<sup>50</sup> Corrected Kearl Report ¶ 63.

<sup>51</sup> Deposition of James R. Kearl, March 23, 2016, p. 112.

<sup>52</sup> I note that Dr. Kearl does appear to agree with the idea that user acceptance of a mobile platform does, in fact, depend on which specific apps are available on the platform. (“If you have fewer apps, there’s less user acceptance. But how much less depends upon which apps come in or go out.”) (Deposition of James R. Kearl, March 23, 2016, pp. 132-133.) Despite this, Dr. Kearl’s scenarios do not explicitly account for the specific apps that are available on the Android platform in his counterfactual. In contrast, my damages analyses do account for the specific apps available in the counterfactual and I provide an economic justification for why those apps are available in the counterfactual.

<sup>53</sup> Corrected Kearl Report ¶ 67.

<sup>54</sup> Exhibit 1d.

in great detail, among other things, the fact that many developers develop for multiple platforms, many programmers know multiple languages, C was just as popular as Java at the time Android was introduced, learning a new programming language is easy for most programmers, other mobile operating systems had chosen C++ as their applications programming language, Apple was successful with a largely unknown applications programming language, Apple did not even allow for third party apps until over a year after the iPhone launch,<sup>55</sup> and the economics literature has found that the costs of porting to a different platform are minimal and that many developers have strong incentives to multi-home.<sup>56</sup>

27. In light of this, it is economically implausible that companies like Bank of America, Yahoo!, Walmart, Facebook, and Skype would not have developed an Android version. However, based on Dr. Kearl's modifications to my app inclusion criteria under his Scenario 3, he excludes these companies' apps (and many apps from companies just like these) from his counterfactual. I note that Dr. Kearl was actually unaware that he had removed apps, such as Facebook and Skype, from the counterfactual because he could not remember if my counterfactual analysis was done on an app-by-app basis,<sup>57</sup> which it was. I find it surprising that Dr. Kearl would not have done a "reality check" to see which apps were dropped when he changed the app inclusion criteria. Furthermore, Dr. Kearl did not even know if his analysis could identify "which apps get dropped by app name." He further explains:

---

<sup>55</sup> "iPhone Premieres This Friday Night at Apple Retail Stores," Apple Press Info, June 28, 2007, <http://www.apple.com/pr/library/2007/06/28iPhone-Premieres-This-Friday-Night-at-Apple-Retail-Stores.html>; "Apple Announces iPhone 2.0 Software Beta," Apple Press Info, March 6, 2008, <http://www.apple.com/pr/library/2008/03/06Apple-Announces-iPhone-2-0-Software-Beta.html>; "iPhone App Store Downloads Top 10 Million in First Weekend," Apple Press Info, July 14, 2008, <http://www.apple.com/pr/library/2008/07/14iPhone-App-Store-Downloads-Top-10-Million-in-First-Weekend.html> (July 14, 2008 Apple press release: "CUPERTINO, California—July 14, 2008—Apple® today announced that iPhone™ and iPod® touch users have already downloaded more than 10 million applications from its groundbreaking new App Store since its launch late last week. Developers have created a wide array of innovative mobile applications...")

<sup>56</sup> Corrected Leonard Report, February 8, 2016, ¶¶ 169-171.

<sup>57</sup> Deposition of James R. Kearl, March 23, 2016, pp. 108-109.

“...what I did was to turn off one of the selection criteria and a number of apps get dropped. Whether you can go see by name which those were, I – now I have said about four times, I just don’t know. I would have to check.”<sup>58</sup> It is also economically implausible that apps that had already been developed on the iPhone in the relatively less well-known and less frequently used Objective C language, and that also have a version available in the C# language for the much less popular Microsoft platform—for example, Pandora, the Weather Channel, Words with Friends, and Yelp—would not have also been developed for Android. Dr. Kearl was also unaware that he had removed these specific apps and similar types of apps (i.e., ones with a Microsoft Phone version) from the counterfactual.<sup>59</sup>

28. I have rerun Dr. Kearl’s Scenario 3 under more reasonable assumptions that Android apps with a Microsoft counterpart, from a corporate entity with strong incentives to multi-home as discussed by Bresnahan, et al., or Android game apps (other than those explicitly known to be programmed in Java) would exist in the counterfactual.<sup>60</sup> I note that most Android game apps are programmed in C++; nevertheless, I had conservatively assumed in my analysis that any game app not explicitly known to be programmed in C++ was programmed in Java. Many of these are also dual-homed, and thus are excluded from the counterfactual under Dr. Kearl’s scenarios 2 and 3. Given that most of these game apps are C++, it is not reasonable to exclude them from the counterfactual. My adjustments to Dr. Kearl’s Scenario 3 adds back to Dr. Kearl’s counterfactual Android apps in the three categories described above. Making this single correction results in a weighted average share loss from 2008 to 2015 of 1.44% (compared to Dr. Kearl’s share loss of approximately 20% under Scenario 3), and

---

<sup>58</sup> Deposition of James R. Kearl, March 23, 2016, p. 133.

<sup>59</sup> Deposition of James R. Kearl, March 23, 2016, p. 111.

<sup>60</sup> I note that, as discussed in the following section (Section I), Dr. Kearl’s share loss estimate based on the Shugan survey (i.e., 13.55%) is based, in part, on the lower end share loss estimate of 7.9% that assumes Android would achieve the same number of apps in the counterfactual as available on the Microsoft platform. Therefore, based on Dr. Kearl’s use of the Shugan survey results, it is reasonable to assume that in the counterfactual Android would at least have the same apps as the Microsoft platform.

the corresponding damages are reduced to \$280.8 million (compared to Dr. Kearl's damages of \$3.51 billion under Scenario 3).<sup>61</sup>

#### **I. Share Loss Estimate Based on the Shugan Survey**

29. Dr. Kearl's lower end share loss-based \$2.08 billion apportionment figure appears to be based on the assumption of a 13.55% share loss in the counterfactual.<sup>62</sup> This share loss figure, in turn, is the midpoint of the 7.9% to 19.2% share loss range derived by Dr. Cockburn from the Shugan survey in the first phase of this case.<sup>63</sup> I discussed in my expert reports prior to the first trial of this case why the Shugan survey was unreliable.<sup>64</sup> To reiterate my earlier criticisms, respondents to the Shugan survey were asked questions about what they would do if the number of available Android apps were reduced from 100,000 apps to either 40,000 apps—"the number of Smartphone applications currently available from Microsoft (a small platform with 40,000 applications)"<sup>65</sup>— or 6,000 apps—the approximate number of apps for the Palm OS, "a rudimentary platform offering approximately 6,800 applications."<sup>66</sup> However, as discussed above, the economic evidence and economics literature are clear that it is the value of available apps, not the number of available apps, which matters. Thus, for example, if the 6,000 apps included all of the "killer apps," the reduction to 6,000 apps likely would have had relatively little effect on the Android share, while if the 6,000 apps included none of the "killer apps," the reduction would have had a relatively larger effect on the Android share. However, the survey did not specify to respondents which apps would be available among the 6,000, leaving respondents to make their own

---

<sup>61</sup> Exhibit 1a.

<sup>62</sup> Corrected Kearl Report ¶¶ 72-73.

<sup>63</sup> Corrected Kearl Report ¶¶ 72-73. See also Expert Report of Dr. Iain M. Cockburn, September 12, 2011 (Revised September 15, 2011), ¶ 472; Expert Report of Professor Steven M. Shugan, September 12, 2011, pp. 14-15, Exhibits 3a, 4a.

<sup>64</sup> Expert Report of Dr. Gregory K. Leonard, October 3, 2011 (Revised October 24, 2011), pp. 107-116.

<sup>65</sup> Appendix D, Expert Report of Professor Steven M. Shugan, September 12, 2011, p. 9.

<sup>66</sup> Appendix D, Expert Report of Professor Steven M. Shugan, September 12, 2011, p. 9, footnote 22.

(and possibly differing) assumptions on this crucial issue when answering the survey questions.<sup>67</sup>

Further, when answering this sort of question in the abstract, as a general matter consumers are overwhelmingly likely to respond that they prefer more options to fewer. Thus, the survey was severely flawed in its design (as the Court recognized), and the survey results cannot be reliably or meaningfully interpreted.

30. In addition, Dr. Kearl makes no attempt to determine how many of the 100,000 apps would have been available in the counterfactual. For example, the 13.55% share loss figure roughly corresponds to an assumed reduction in apps from 100,000 to 23,000 apps in the counterfactual. Dr. Kearl provides no empirical or other basis to conclude that this 77% reduction in apps is the appropriate figure on which to base the counterfactual, as opposed to a 60% reduction in apps, which corresponds to Dr. Cockburn's lower end 7.9% share loss figure, or for that matter, an even smaller reduction in apps (which would correspond to a share loss smaller than 7.9%). Just because Oracle's experts chose to ask respondents about only two scenarios (reductions to 40,000 apps and 6,000 apps) does not mean that either of these scenarios form a reasonable economic basis for a counterfactual. Empirical or other analysis is necessary and Dr. Kearl has provided none. For example, given that most game apps are written in C++ and games constitute a large share of apps, it is difficult to see any reasonable basis to assume that apps would have been reduced by 94% from 100,000 to 6,000 apps (the hypothetical scenario that generates the 19.2% share loss figure) in the counterfactual.

31. Additionally, Dr. Kearl does not explain why he chose to use the 13.55% midpoint of the Cockburn 7.9% to 19.2% share loss range. In fact, Dr. Kearl's own Scenario 2, which is a modification to my share loss analysis where Dr. Kearl removes the Dual-Language Company and Dual-Home Company

---

<sup>67</sup> Dr. Kearl agreed that letting the respondents to Dr. Shugan's survey know which apps were available among the remaining apps (e.g., Facebook) and then measuring the effect would be important to test. (Deposition of James R. Kearl, March 23, 2016, pp. 131-132.)

inclusion criteria, results in a share loss of approximately 8%,<sup>68</sup> which is consistent with the low end of the range derived by Dr. Cockburn from the Shugan survey of 7.9%. Furthermore, Dr. Kearl does not explain why his final range of damages figures of \$2.08 billion to \$3.51 billion is based on the midpoint share loss derived from Dr. Cockburn and Dr. Shugan (13.55%), and the high end of his range of share losses (approximately 20%) based on his Scenario 3; and why he chooses to ignore the low end of his range of share losses (approximately 8% under his Scenario 2), or the low end of the range of Dr. Cockburn's and Dr. Shugan's share losses (7.9%).

32. In any event, I understand that the conjoint analysis performed by Dr. Shugan, which forms the basis of the 13.55% share loss figured used by Dr. Cockburn and adopted by Dr. Kearl, was previously stricken from the case. As Dr. Kearl acknowledged at his deposition, if the Court decides that Dr. Shugan's conjoint analysis still cannot be relied upon in this phase of the case, then Dr. Kearl's \$2.08 billion damages opinion based on a 13.55% share loss is no longer relevant.<sup>69</sup>

#### **J. Oracle's Lost Profits Claim**

33. Dr. Kearl and I largely agree on the assessment of Oracle's lost profits claim. One clarification is that we both make the extremely conservative assumption that there would be no Android in the counterfactual. In the Leonard Report, I had pointed out that, under what I believe to be the likely counterfactual outcome, Android would have achieved essentially the same success that it did and that therefore Oracle's lost profits, properly analyzed, are essentially zero. Moreover, as already pointed out in the Leonard Report, Oracle's alleged lost profits were not caused by the alleged infringement here, but instead by the broader market shift from feature phones to smartphones (see graph below), which was underway before the release of Android and would have occurred even if there had been no Android. In addition, Dr. Kearl appears to conclude that, while there would be Android

---

<sup>68</sup> Corrected Kearl Report ¶¶ 67, 69.

<sup>69</sup> Deposition of James R. Kearl, March 23, 2016, pp. 136-137.



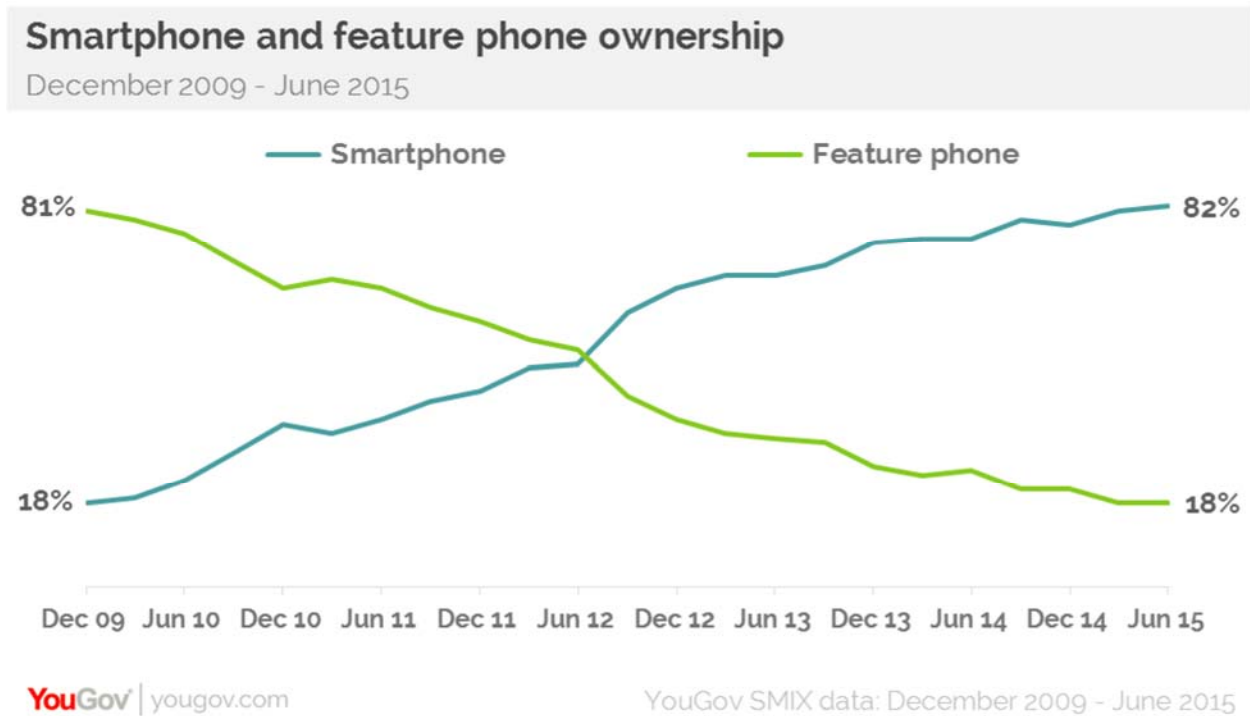
share loss in the counterfactual, Android would nevertheless maintain substantial share (at least 80% and up to 86.45% of its actual share). But, he does not account for Android's existence in the counterfactual in his lost profits calculation. He could have done so by adjusting his calculation of lost profits downward to account for Android's substantial counterfactual share. This would have reduced his estimate of lost profits by about 80%-86.45%.

34. Dr. Kearl makes an adjustment to my lost profits calculation to account for "price erosion."<sup>70</sup> I disagree with making this adjustment because there is not sufficient evidence of price erosion that would support making such a large adjustment. Oracle's lost profits claims and arguments in support of these claims center on lost sales--the loss of license agreements (or failure to renew by licensees) and the displacement of feature phones by Android smartphones. As far as I am aware, Oracle has never contended, and certainly did not put forward any analysis or data through its damages expert Mr. Malackowski, that suggested, much less demonstrated, that the royalty rate paid by any given licensee decreased due to competition from Android. Even if there were evidence that the royalty rate decreased, the stagnation of Java ME and the existence of the iPhone played important roles in this outcome, and holding price fixed at 2009 levels would not account for either of these factors and thus would incorrectly attribute their effects to Android. For example, according to the graph below, from December 2009 to June 2015, smartphone ownership has increased from 18% of combined smartphone and feature phone ownership to 82%, while feature phone ownership has decreased from 81% to 18% of combined smartphone and feature phone ownership. A portion of this growth in smartphones is due to the iPhone, and Dr. Kearl's price erosion assumption and analysis does not account for this fact.<sup>71</sup> For all of these reasons, I do not agree that it is appropriate to make an adjustment for price erosion.

---

<sup>70</sup> Corrected Kearl Report ¶ 97.

<sup>71</sup> Dr. Kearl acknowledges that "there could have been some effect" from the iPhone on any price erosion associated with Java ME. (Deposition of James R. Kearl, March 23, 2016, p. 205.) Since "could have" was



#### K. Top Down Apportionment

35. Dr. Kearl does not find my top down apportionment to be useful because, he says, if there is nothing special about the 37 APIs relative to other components of Android, the contribution of the 37 APIs to Google's Android profits is zero rather than the figures I derived in my top down apportionment.<sup>72</sup> I do not entirely agree with Dr. Kearl's argument.

36. I agree that, if there was nothing special about the 37 APIs compared to analogous APIs for other programming languages that Google could have used, then the value of the 37 APIs would be zero under a bottom up apportionment approach. However, the top down apportionment is doing something different: it is taking the total amount of Android's profits and then trying to divide up those profits among the factors that contributed to Android's success. The purpose of the comparison of the

---

enough justification for him to make the price erosion adjustment, "could have" should have been enough justification for him to make sure that the price erosion adjustment accounted for the presence of the iPhone.

<sup>72</sup> Corrected Kearl Report ¶ 102.

37 APIs to other components of Android is to determine whether the 37 APIs are somehow entitled to a “disproportionate” share of the Android profits. I find in the Leonard Report that this is not the case based on the facts of the case.<sup>73</sup>

37. Oracle’s counsel asked Dr. Kearl at his deposition about a hypothetical example where there were two assets, A and J, and there was a non-infringing alternative for J, call it C.<sup>74</sup> Suppose that the profit that is created when A and J are used together is \$100. Suppose that the profit if instead A and C had been used together (in a counterfactual) is \$99. In that case, the synergy between A and J, properly measured, is \$1. That is because A (with C) can achieve \$99 without J.<sup>75</sup> Thus, J cannot lay any claim to \$99 of the \$100. A bottom up apportionment in this case would give the entire A-J synergy of \$1 to J.

#### **L. Development Lag Analysis**

38. In the Leonard Report, I performed a regression analysis that demonstrates that Android apps developed in Java did not have development time advantage over Android apps developed in C++.<sup>76</sup> I pointed out that this finding is inconsistent with Oracle’s claims in this case. Dr. Kearl discounts this analysis because it was performed only on highly downloaded apps.<sup>77</sup> I assume that he thinks that highly downloaded apps are not representative of other apps. However, Dr. Kearl presents no reason, let alone evidence, why development time, and particularly the gap (or absence thereof) in development time between Java apps and C++ apps would depend in any way on the popularity of the

---

<sup>73</sup> Corrected Leonard Report, February 8, 2016, ¶¶ 198-199.

<sup>74</sup> Deposition of James R. Kearl, March 23, 2016, pp. 206-207.

<sup>75</sup> A paper I co-authored discusses these principles. E. Bailey, G. Leonard, and M. Lopez, “Making Sense of Apportionment in Patent Damages,” Columbia Science and Technology Law Review, 2011. Although specifically addressing apportionment in patent damages, the economic principles are the same.

<sup>76</sup> Corrected Leonard Report, February 8, 2016, ¶ 115.

<sup>77</sup> Corrected Kearl Report, ¶ 99.

app. In fact, one might expect that popular apps tend to be more complex, which would exaggerate any development time disadvantage for C++ that existed. However, I found no development time disadvantage for C++ relative to Java.

#### **M. The Kim Model**

39. In his report, Dr. Kearl did not dispute the technical aspects of my use of the Kim model<sup>78</sup> and pointed out that discrete choice models have been widely used by economists in demand analysis (for more than forty years) and were, in fact, the result of substantial developments made by Nobel Prize winner Professor Daniel McFadden,<sup>79</sup> who was my econometrics instructor when I was a graduate student at MIT and later a co-author with me on several papers (that involved discrete choice models). Economists agree that discrete choice models are useful in damages estimation in litigation, including in patent damages estimation.<sup>80</sup>

40. Oracle's counsel questioned Dr. Kearl about several aspects of the Kim model. First, Dr. Kearl noted that he did not have the underlying data on which the Kim model was econometrically estimated and thus could not look into aspects of the model.<sup>81</sup> However, it is commonplace among

---

<sup>78</sup> According to Dr. Kearl: "I have no reason at this juncture to criticize the economic theory behind what Dr. Leonard has presented." (Corrected Kearl Report, ¶ 65, footnote 99.)

<sup>79</sup> According to Dr. Kearl:

Several of the criticisms put forward by Mr. Malackowski and Professor Jaffe do not go to the economics of the model, namely, Mr. Malackowski raises questions about whether the Kim model has been peer-reviewed and whether a discrete choice model may be used to calculate damages in litigation. To these points I would say, first, that a doctoral dissertation is carefully reviewed by the academic committee supervising the Ph.D. student and Dr. Kim's degree is from a respected program. Second, the discrete choice model is accepted within the economics community with the person who brought it to the discipline, Daniel McFadden, having earned the Nobel Prize for his work. Furthermore, the Berry model used by Dr. Leonard has been not only peer-reviewed but also cited in other peer-reviewed articles over 500 times. (Corrected Kearl Report, ¶ 65, footnote 99.)

<sup>80</sup> For example, see J. Hausman, G. Leonard, and D. McFadden, "A Utility-Consistent, Combined Discrete Choice and Count Data Model Assessing Recreational Use Losses Due to Natural Resource Damage," *Journal of Public Economics*, 1995; G. Werden, L. Froeb, and L. Beavers, "Economic Analysis of Lost Profits From Patent Infringement With and Without Noninfringing Substitutes," *AIPLA Quarterly Journal*, 1999.

<sup>81</sup> See, e.g., Deposition of James R. Kearl, March 23, 2016, pp. 104-105.

economists to base analysis on results from other papers without going back and rerunning the analysis of those earlier papers. For example, papers that use simulation models to analyze the economic effects of policy changes often base values of parameters of the model on other economic research papers.<sup>82</sup>

41. Consistent with this general practice of relying upon findings from other papers, Dr. Jaffe and his two co-authors rely on an Energy Information Administration (1980) report for their work on "The Induced Innovation Hypothesis and Energy-Saving Technological Change."<sup>83</sup>

42. Similarly, it is commonplace for experts in litigation to cite to and rely upon numbers from trade press, media articles, as well as documents that have been produced in the litigation despite not having access to the underlying data and details regarding how the numbers were calculated. For example, in this litigation, Mr. Malackowski cites numerous figures from various sources, but makes no representation that he or his team have personally gone back to reconstruct the figures from underlying

---

<sup>82</sup> See, e.g., D. Altig, et al., "Simulating Fundamental Tax Reform in the United States," American Economic Review, June 2001 ("To adjust for tax evasion, we reduce income taxes by 2.6%. This adjustment is consistent with the degree of tax evasion reported in Joel Slemrod and Jon Bakija (1996)" (p. 581); "The intertemporal elasticity,  $\gamma$ , is set equal to 0.25, representing a relatively low degree of substitution between consumption at different dates. While some studies in the literature have found higher elasticities, most have not" (p. 583); "The bequest weights in the utility function...are chosen to match bequests as a fraction of income in the initial steady state based on estimates by Paul L. Menchik and Martin David (1982) reported in Fullerton and Rogers (1993)" (p. 583); "The 1960-1994 average of the sum of interest, dividends, retained earnings and all corporate taxes divided by the replacement value of capital stock (Richard Rippe, 1995)" (Table 2, p. 584)); S. İmrohoroğlu and S. Kitao "Labor Supply Elasticity and Social Security Reform," Journal of Public Economics (2009) "We use the study of Bell and Miller (2005) for the current age-dependent conditional survival probabilities in the U.S." (p. 870); "According to the Social Security Administration (SSA), the dependency ratio will exceed 40% by 2080" (p. 870); "In our quantitative analysis, we follow the micro labor literature and consider three values of the intertemporal, elasticity of substitution in labor  $\gamma \in \{0.1, 0.5, 1.0\}$ . The value of 0.1 represents the early estimates and the highest value we consider is more representative of the recent estimates" (p. 871); "The deterministic age-dependent component  $\epsilon_j$  is taken from Hansen (1993). The idiosyncratic component  $\eta$  is specified as a first-order autoregressive process with a persistence parameter  $\rho=0.94$  and the variance of the white noise  $\sigma^2=0.02$ , which lie in the range of estimates in the literature (see, for example, Heathcote et al., 2004)" (p. 871)); A. Börsch-Supan, et al., "Aging, Pension Reform, and Capital Flows: A Multi-Country Simulation Model," *Economica*, 2005 (basing parameters on work by Pelacios and Pollares-Morales (2000), Fitzenberger, et al. (2001), the OECD, Altig, et al. (2001), Oliner et al. (1995), and Cutler, et al. (1990)).

<sup>83</sup> Jaffe, et al., "The Induced Innovation Hypothesis and Energy-Saving Technological Change," *The Quarterly Journal of Economics*, August 1999. "Based on assessments in the literature of tooling and redesigning time required to bring energy-saving product innovations to market, we estimate equations using the three-year lag in the relative price of energy (i.e.,  $j=3$ ) (Energy Information Administration 1980)" on pp. 947-948.

data. He also based his lost profits analysis on a forecast contained in a Sun document despite having no access to the data underlying the forecast or details about how the forecast was constructed.<sup>84</sup>

43. Second, Oracle's counsel asked Dr. Kearl whether I had accounted for "simultaneity" and Dr. Kearl said no.<sup>85</sup> This is incorrect. In fact, Dr. Kim used instrumental variable methods to estimate her model, the purpose of which is to address simultaneity.<sup>86</sup>

44. Third, Oracle's counsel asked Dr. Kearl whether the Kim model is "static" or "dynamic."<sup>87</sup> This is a red herring. The potential for dynamic considerations does not preclude the use of the type of discrete choice model used by Dr. Kim; similar models have been used by economists to study, for example, the demand for durable goods (of which cellular handsets would be an example).<sup>88</sup> Moreover, the basic structure of the Kim model (relating user demand to the value of contemporaneously available apps) is shared by the Bresnahan, et al. paper.<sup>89</sup> Finally, making vague assertions about a "dynamic" model without setting forth any proposed specification, let alone any demonstration that such a model is actually superior, is meaningless.

45. Fourth, Oracle's counsel asked Dr. Kearl whether the Kim model accounts for supposed insistence by carriers that Google use Java because of security concerns.<sup>90</sup> However, the factual predicate of counsel's question does not reflect established market reality: many other mobile

---

<sup>84</sup> Expert Report of James E. Malackowski [Corrected], January 8, 2016, ¶¶ 186-189. Dr. Kearl stated in his report that there are disputes about the interpretation of the forecast. (Corrected Kearl Report ¶¶ 82-85.)

<sup>85</sup> Deposition of James R. Kearl, March 23, 2016, pp. 170-171.

<sup>86</sup> M.J. Kim, Essays on the Economics of the Smartphone and Application Industry, University of Minnesota, Ph.D. Thesis (2013), p. 41; J. Hausman, "Specification and Estimation of Simultaneous Equations Models," in Handbook of Econometrics, 1983.

<sup>87</sup> Deposition of James R. Kearl, March 23, 2016, pp. 169-170.

<sup>88</sup> For example, see S. Berry, J. Levinsohn, and A. Pakes, "Automobile Prices in Market Equilibrium," *Econometrica*, 1995; A. Petrin, "Quantifying the Benefits of New Products: The Case of the Minivan," *Journal of Political Economy*, 2002. Professor Petrin advised Dr. Kim.

<sup>89</sup> "Platform Choice by Mobile App Developers," T. Bresnahan, et al., Stanford University, May 29, 2014, pp. 9-11.

<sup>90</sup> Deposition of James R. Kearl, March 23, 2016, pp. 165-166.

operating systems (e.g., iOS, Microsoft Phone, Bada) have not used Java, and have been judged acceptable by carriers. Moreover, Java has been widely criticized for security problems.<sup>91</sup>

46. Finally, Oracle's counsel asked whether the Kim model accounts for the "feedback loop" and Dr. Kearl said he did not think that the model did.<sup>92</sup> This is another misunderstanding of the Kim model. Just as one can estimate the demand function for a product without also estimating the supply function, one can estimate the demand function on one side of a platform without also estimating the demand or supply functions on other sides of the platform. This is what Dr. Kim does: estimates the demand function for users.<sup>93</sup> I separately specify what the app supply would be in the counterfactual, and combine that with Dr. Kim's model of user demand to predict what Android's user share would be in the counterfactual. I also note that in the Leonard Report I explicitly addressed the feedback loop issue and explained why it is negligible.<sup>94</sup>

47. Dr. Kim's research was conducted independently of this litigation. She uses a standard discrete choice model of demand. The basic structure of the model (relating user demand to the value of available apps, where value is measured by use) is shared by other papers in the literature (and bears a relationship to a model I used in my own research, albeit in a different context).<sup>95</sup> Dr. Kim was advised by economists with extensive experience in this area (Professors Petrin, Waldfogel, and Bajari). The results of her work make economic sense. Neither Dr. Kearl, nor Oracle's experts, estimated an

---

<sup>91</sup> See the discussion of the history of security problems with Java in the Corrected Leonard Report, February 8, 2016, ¶¶ 250-255.

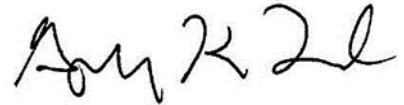
<sup>92</sup> Deposition of James R. Kearl, March 23, 2016, p. 170.

<sup>93</sup> As mentioned above, Bresnahan, et al. have a conceptually similar user demand function as the Kim model. Bresnahan, et al. also estimate the app supply function. As described in the text, I combine the Kim user demand function with a counterfactual supply of apps.

<sup>94</sup> Corrected Leonard Report, February 8, 2016, footnote 285.

<sup>95</sup> See J. Hausman, et al., "A Utility-Consistent, Combined Discrete Choice and Count Data Model Assessing Recreational Use Losses Due to Natural Resource Damage," *Journal of Public Economics*, 1995. The model in this paper specifies that the number of fishing trips taken by an individual may depend on the value of the available fishing opportunities, just as a user's choice of smartphone may depend on the value of the available apps.

alternative model of user demand or otherwise provided any concrete demonstration that any supposed flaws in the Kim model actually matter. As a result, I find it baseless and troubling that there should be any assertion that the Kim model does not provide information that is useful to analyzing the issues in this case.

A handwritten signature in black ink, appearing to read "Greg K Leonard", written in a cursive style.

---

Gregory K. Leonard  
March 28, 2016



# Appendix A

## GREGORY K. LEONARD

Gregory K. Leonard is a Partner at Edgeworth Economics specializing in applied microeconomics and econometrics.

Dr. Leonard has written widely in the areas of antitrust, industrial organization, econometrics, intellectual property, class certification, and labor economics. His publications have appeared in the *RAND Journal of Economics*, the *Journal of Industrial Economics*, the *Journal of Econometrics*, the *International Journal of Industrial Organization*, the *Journal of Public Economics*, *Annales Economie et de Statistique*, the *Journal of Labor Economics*, the *International Journal of the Economics of Business*, *Antitrust Law Journal*, *Antitrust*, *Antitrust Source*, the *Journal of Economic Analysis & Policy*, *Journal of Competition Law and Economics*, the *Journal of Economic Surveys*, *法学家 (Jurists' Review)*, *Antitrust Chronicle*, the *Berkeley Technology Law Journal*, the *Columbia Science and Technology Law Review*, the *European Competition Law Review*, *les Nouvelles*, *Landslide*, *Managing Intellectual Property*, *Legal Issues of Economic Integration*, *Kokusai Shoji Houmu (International Business Law and Practice)*, and the *George Mason Law Review*. Dr. Leonard authored two chapters and co-authored another chapter in the American Bar Association Section of Antitrust Law (ABA) volume *Econometrics* (2nd Ed., 2014), co-authored two chapters in the ABA volume *Issues in Competition Law and Policy*, and co-authored the "Econometrics and Regression Analysis" chapter of the ABA volume *Proving Antitrust Damages* (2nd Ed., 2010). He co-edited *Economic Approaches to Intellectual Property: Policy, Litigation, and Management* and authored or co-authored three of its chapters. One of these chapters (co-authored with Lauren J. Stiroh) was cited by the Court of Appeals for the Federal Circuit in its *Uniloc* decision. Dr. Leonard is a Senior Editor of the *Antitrust Law Journal* and has served as a referee for numerous economics journals.

Dr. Leonard was invited to speak on merger simulation at the 2004 US Department of Justice and Federal Trade Commission (FTC) Merger Workshop, the econometrics of evaluating competition in local retail markets at the 2008 FTC Retail Mergers Workshop, and the calculation of patent damages at the 2009 FTC Hearings on the Evolving IP Marketplace. The 2011 FTC report resulting from the latter hearings cited Dr. Leonard extensively. In 2005, Dr. Leonard served as a consultant on the issue of immunities and exemptions to the Antitrust Modernization Commission (AMC), which was tasked by Congress and the President with developing recommendations for changes to the US antitrust laws. He testified before the AMC in December 2005. Dr. Leonard gave an invited presentation on the use of natural experiments in antitrust at the European Commission's Directorate General for Competition (DG Comp) in 2014.

Dr. Leonard has extensive experience with international antitrust and intellectual property issues, particularly in Asia. He has been retained by the Anti-Monopoly Bureau of China's Ministry of Commerce (MOFCOM) as an outside economics expert to assist in merger reviews. Dr. Leonard has given invited presentations at MOFCOM, the Supreme People's Court of China, Renmin University, the Chinese Academy of Social Sciences, and the University of Political Science and Law. He was a member of ABA and US Chamber of Commerce delegations to joint workshops with the Chinese antitrust agencies, MOFCOM, NDRC, and SAIC, and served on the working groups of the ABA's Sections of Antitrust Law and International Law that prepared comments on MOFCOM's and SAIC's draft regulations. Dr. Leonard has also given presentations to the Japan Fair Trade Commission and the India Competition Commission.

Dr. Leonard has experience in a broad range of industries, including pharmaceuticals, telecommunications, airlines, semiconductors, hedge funds, securities, commercial and recreational fishing, medical devices, professional sports, credit card networks, payment systems, information services, computer software, computer hardware, chemicals, plastics, flat glass, retailing, advertising, beef processing, fertilizers, printing, petroleum, steel, beer, cereals, cosmetics, athletic apparel, film, milk, canned fish, vitamins, animal feed supplements, tissue, paperboard, industrial gas, concrete, automobiles, contact lens cleaners, sports beverages, soft drinks, diapers, tobacco products, graphite and carbon products, and modems, among others.

Dr. Leonard has provided written and oral testimony and presentations before federal and state courts, government agencies, and arbitration panels on issues involving antitrust, damages estimation, statistics and econometrics, surveys, valuation, and labor market discrimination.

Prior to joining Edgeworth, Dr. Leonard was a Senior Vice President at NERA and Lexecon Inc., a founding member and Director of Cambridge Economics, Inc., and an Assistant Professor at Columbia University, where he taught statistics, econometrics, and labor economics.

Dr. Leonard received an Sc.B. in Applied Mathematics-Economics from Brown University and a Ph.D. in Economics from the Massachusetts Institute of Technology, where he was a National Science Foundation Graduate Fellow and an Alfred P. Sloan Foundation Fellow.

## EDUCATION

Massachusetts Institute of Technology

PhD, Economics, 1989

Alfred P. Sloan Foundation Fellowship, 1988-1989

National Science Foundation Graduate Fellowship, 1985-1988

Brown University

ScB, Applied Mathematics-Economics, 1985

Rohn Truell Memorial Premium in Applied Mathematics, 1985

## PROFESSIONAL EXPERIENCE

2012-	Partner, Edgeworth Economics
2008-2012	Senior Vice President, NERA Economic Consulting
2004-2008	Vice President, NERA Economic Consulting
2000-2004	Senior Vice President, Lexecon, Inc.
1991-2000	Director, Cambridge Economics, Inc.

1990-1991	Senior Analyst, NERA Economic Consulting
1989-1990	Assistant Professor, Columbia University (Teaching Areas: Econometrics, Statistics, Labor Economics)

## PAPERS AND PUBLICATIONS

"A Proposed Method for Measuring Competition Among Imperfect Substitutes," *Antitrust Law Journal* 60, 1992, pp. 889-900 (with J. Hausman and D. Zona).

"Issues in the Contingent Valuation of Environmental Goods: Methodologies for Data Collection and Analysis," in *Contingent Valuation: A Critical Assessment*, Ed. by J. A. Hausman, North Holland Press, 1993 (with D. McFadden).

"Assessing Use Value Losses Due to Natural Resource Injury," in *Contingent Valuation: A Critical Assessment*, ed. by J. A. Hausman, North Holland Press, 1993 (with J. Hausman and D. McFadden).

"Does Contingent Valuation Measure Preferences? Experimental Evidence," in *Contingent Valuation: A Critical Assessment*, ed. by J. A. Hausman, North Holland Press, 1993 (with P. Diamond, J. Hausman, and M. Denning).

"Competitive Analysis with Differentiated Products," *Annales d'Economie et de Statistique* 34, 1994, pp. 159-180 (with J. Hausman and D. Zona).

"A Utility Consistent, Combined Discrete Choice and Count Data Model: Assessing Recreational Use Losses Due to Natural Resource Damage," *Journal of Public Economics* 56, 1995, pp. 1-30 (with J. Hausman and D. McFadden).

"Market Definition Under Price Discrimination," *Antitrust Law Journal* 64, 1996, pp. 367-386 (with J. Hausman and C. Velturo).

"Achieving Competition: Antitrust Policy and Consumer Welfare," *World Economic Affairs* 1, 1997, pp. 34-38 (with J. Hausman).

"Economic Analysis of Differentiated Products Mergers Using Real World Data," *George Mason Law Review* 5, 1997, pp. 321-346 (with J. Hausman).

"Superstars in the NBA: Economic Value and Policy," *Journal of Labor Economics* 15, 1997, pp. 586-624 (with J. Hausman).

"Efficiencies From the Consumer Viewpoint," *George Mason Law Review* 7, 1999, pp. 707-727 (with J. Hausman).

"Documents Versus Econometrics in Staples," contributed to [www.antitrust.org](http://www.antitrust.org), also available at [www.nera.com](http://www.nera.com) (with J. Hausman).

"The Competitive Effects of a New Product Introduction: A Case Study," *Journal of Industrial Economics* 30, 2002, pp. 237-263 (with J. Hausman).

"Does Bell Company Entry into Long-Distance Telecommunications Benefit Consumers?" *Antitrust Law Journal* 70, 2002, pp. 463-484 (with J. Hausman and J. G. Sidak).

"On Nonexclusive Membership in Competing Joint Ventures," *RAND Journal of Economics* 34, 2003 (with J. Hausman and J. Tirole).

"Correcting the Bias When Damage Periods are Chosen to Coincide With Price Declines," *Columbia Business Law Review*, 2004, pp. 304-306 (with D. Carlton).

"Competitive Analysis Using a Flexible Demand Specification," *Journal of Competition Law and Economics* 1, 2005, pp. 279-301 (with J. Hausman).

"Using Merger Simulation Models: Testing the Underlying Assumptions," *International Journal of Industrial Organization* 23, 2005, pp. 693-698 (with J. Hausman).

"Application of Empirical Methods in Merger Analysis," report to the Fair Trade Commission of Japan, June 27, 2005 (with C. Dippon and L. Wu).

"A Practical Guide to Damages," in *Economic Approaches to Intellectual Property, Policy, Litigation and Management*, ed. by G. Leonard and L. Stiroh, 2005 (with L. Stiroh).

"Applying Merger Simulation Techniques to Estimate Lost Profits Damages in Intellectual Property Litigation," in *Economic Approaches to Intellectual Property, Policy, Litigation and Management*, ed. by G. Leonard and L. Stiroh, 2005.

"Antitrust Implications of Pharmaceutical Patent Litigation Settlements," in *Economic Approaches to Intellectual Property, Policy, Litigation and Management*, ed. by G. Leonard and L. Stiroh, 2005 (with R. Mortimer).

"Framework for Policymakers to Analyze Proposed and Existing Antitrust Immunities and Exemptions," report to the Antitrust Modernization Commission, October 24, 2005 (with D. Bush and S. Ross).

"Real Options and Patent Damages: The Legal Treatment of Non-Infringing Alternatives and Incentives to Innovate," *Journal of Economic Surveys* 20, 2006, pp. 493-512 (reprinted in *Economic and Legal Issues in Intellectual Property*, M. McAleer and L. Oxley, eds., Blackwell Publishing, 2007) (with J. Hausman).

"The Competitive Effects of Bundled Discounts," in *Economics of Antitrust: Complex Issues in a Dynamic Economy*, ed. by L. Wu, 2007.

"Estimation of Patent Licensing Value Using a Flexible Demand Specification," *Journal of Econometrics* 139, 2007, pp. 242-258 (with J. Hausman).

“Patent Damages and Real Options: How Judicial Characterization of Non-Infringing Alternatives Reduces Incentives to Innovate,” *Berkeley Technology Law Journal* 22, Spring 2007, pp. 825-853 (with J. Hausman and J. G. Sidak).

“Don’t Feed the Trolls,” *les Nouvelles*, Vol. 42, September 2007, pp. 487-495 (reprinted in *Patent Trolls: Legal Implications*, C.S. Krishna, ed., The Icfai University Press, 2008) (with J. Johnson, C. Meyer, and K. Serwin).

“Are Three to Two Mergers in Markets with Entry Barriers Necessarily Problematic?” *European Competition Law Review* 28, October 2007, pp. 539-552 (with N. Attenborough and F. Jimenez).

“Economics and the Rigorous Analysis of Class Certification in Antitrust Cases,” *Journal of Competition Law and Economics* 3, 2007, pp. 341-356 (with J. Johnson).

“Assessing the Competitive Effects of a Merger: Empirical Analysis of Price Differences Across Markets and Natural Experiments,” *Antitrust*, Fall 2007, pp. 96-101 (with L. Wu).

“Incentives and China’s New Antimonopoly Law,” *Antitrust*, Spring 2008, pp. 73-77 (with F. Deng).

“Use of Simulation in Competitive Analysis,” in *Issues in Competition Law and Policy*, ed. by W. Dale Collins, 2008 (with J.D. Zona).

“Allocative and Productive Efficiency,” in *Issues in Competition Law and Policy*, ed. by W. Dale Collins, 2008 (with F. Deng).

“In the Eye of the Beholder: Price Structure as Junk Science in Antitrust Class Certification Proceedings,” *Antitrust*, Summer 2008, pp. 108-112 (with J. Johnson).

“Merger Retrospective Studies: A Review,” *Antitrust*, Fall 2008, pp. 34-41 (with G. Hunter and G. S. Olley).

“Roundtable Discussion: Developments—and Divergence—in Merger Enforcement,” *Antitrust*, Fall 2008, pp. 9-27.

“Dispatch From China,” *Antitrust*, Spring 2009, pp. 88-89.

“A Hard Landing in the Soft Drink Market – MOFCOM’s Veto of the Coca-Cola/Huiyuan Deal,” *Antitrust Chronicle*, April 2009(2) (with F. Deng and A. Emch).

“Predatory Pricing after *linkline* and *Wanadoo*,” *Antitrust Chronicle*, May 2009(2) (with A. Emch).

“Farrell and Shapiro: The Sequel,” *Antitrust*, Summer 2009, pp. 14-18 (with M. Lopez).

“掠夺性定价—美国与欧盟的法律及经济学分析” (“Predatory Pricing - Economics and Law in the United States and the European Union”), *法学家 (Jurists’ Review)*, 2009, pp. 100-110 (with A. Emch).

"Revising the Merger Guidelines: Second Request Screens and the Agencies' Empirical Approach to Competitive Effects," *Antitrust Chronicle*, December 2009(1) (with L. Wu).

"How Private Antitrust Litigation May Be Conducted in China," *Competition Law* 360, January 6, 2010 (with F. Deng and W. Tang).

"Merger Screens: Market-Share Based Approaches and 'Upward Pricing Pressure,'" *Antitrust Source*, February 2010 (with E. Bailey, G. S. Olley, and L. Wu).

"Minimum Resale Price Maintenance: Some Empirical Evidence From Maryland," *BE Journal of Economic Analysis & Policy* 10, 2010 (with E. Bailey).

"Three Cases Reshaping Patent Licensing Practice," *Managing Intellectual Property*, March 2010 (with E. Bailey and A. Cox).

"Econometrics and Regression Analysis," in *Proving Antitrust Damages: Legal and Economic Issues*, ABA Section of Antitrust (2<sup>nd</sup> Edition), 2010 (with J. Langenfeld, W. Li, and J. Morris).

"Patent Damages: What Reforms Are Still Needed?," *Landslide* 2, May/June 2010 (with M. Lopez).

"The Google Books Settlement: Copyright, Rule 23, and DOJ Section 2 Enforcement," *Antitrust*, Summer 2010, pp. 26-31.

"The 2010 Merger Guidelines: Do We Need Them? Are They All We Need?," *Antitrust Chronicle*, October 2010(2).

"Evaluating the Unilateral Competitive Effects of Mergers Among Firms with High Profit Margins," *Antitrust*, Fall 2010, pp. 28-32 (with E. Bailey and L. Wu).

"Predatory Pricing in China—In Line With International Practice?," *Legal Issues of Economic Integration* 37, 2010, pp. 305-316 (with A. Emch).

"What Can Be Learned About the Competitive Effects of Mergers From 'Natural Experiments'?", *International Journal of the Economics of Business* 18, 2011, pp. 103-107 (with G. S. Olley).

"District Court Rejects the Google Books Settlement: A Missed Opportunity?," *Antitrust Source*, April 2011.

"Making Sense of 'Apportionment' in Patent Damages," *Columbia Science and Technology Law Review* 12, pp. 255-271, 2011 (with E. Bailey and M. Lopez).

"Rigorous Analysis of Class Certification Comes of Age," *Antitrust Law Journal* 77, 2011, pp. 569-586 (with J. Johnson).

"Economic Analysis in Indirect Purchaser Class Actions," *Antitrust*, Fall 2011, pp. 51-57 (with F. Deng and J. Johnson).

“Merger Assessment and Frontier of Economic Analyses (4): Empirical Methods in Antitrust Merger Review,” *Kokusai Shoji Houmu (International Business Law and Practice)*, Vol. 40, No. 3, 2012, pp. 391-401 (with L. Wu).

“Merger Assessment and Frontier of Economic Analyses (5): Empirical Methods in Antitrust Merger Review,” *Kokusai Shoji Houmu (International Business Law and Practice)*, Vol. 40, No. 4, 2012, pp. 557-564 (with L. Wu).

“Merger Assessment and Frontier of Economic Analyses (6): Empirical Methods in Antitrust Merger Review,” *Kokusai Shoji Houmu (International Business Law and Practice)*, Vol. 40, No. 5, 2012, pp. 731-739 (with L. Wu).

“Economists’ Roundtable on Hot Patent-Related Antitrust Issues,” *Antitrust*, Summer 2013, pp. 10-21 (with D. Carlton, C. Meyer, C. Shapiro).

“Not So Natural Experiments,” *Competition Policy International*, July 2013 (2).

“The Role of China’s Unique Economic Characteristics in Antitrust Enforcement,” in *China’s Anti-Monopoly Law: The First Five Years*, ed. by Adrian Emch and David Stallibrass, 2013 (with F. Deng).

“Reflections on Bazaarvoice,” *CPI Antitrust Chronicle*, March 2014 (1) (with P. Normann).

“An Introduction to Econometric Analysis,” in *Econometrics: Legal, Practical and Technical Issues*, ABA Section of Antitrust (2nd Edition), 2014.

“The Econometric Framework,” in *Econometrics: Legal, Practical and Technical Issues*, ABA Section of Antitrust (2nd Edition), 2014.

“Applying Econometrics to Estimate Damages,” in *Econometrics: Legal, Practical and Technical Issues*, ABA Section of Antitrust (2nd Edition), 2014 (with J. Langenfeld, W. Li, and J. Morris).

“Determining RAND Royalties for Standard-Essential Patents,” *Antitrust*, Fall 2014, pp. 86-94 (with M. Lopez).

“A Comparison of the Almost Ideal Demand System and Random Coefficients Logit Models For Use with Retail Scanner Data,” NERA Working Paper, 2007 (with F. Deng).

## PRESENTATIONS

“Merger Analysis with Differentiated Products,” paper presented to the Economic Analysis Group of the US Department of Justice, April 1991 (with J. Hausman and D. Zona).

“Assessing Use Value Losses Due to Natural Resource Injury,” paper presented at “Contingent Valuation: A Critical Assessment,” Cambridge Economics Symposium, April 3, 1992 (with J. Hausman and D. McFadden).



“Contingent Valuation and the Value of Marketed Commodities,” paper submitted to the Contingent Valuation Panel of the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, August 12, 1992 (with J. Hausman).

“Economic Analysis of Differentiated Products Mergers Using Real World Data,” paper presented to the George Mason University Law Review Antitrust Symposium, October 11, 1996 (with J. Hausman).

“Documents Versus Econometrics in Staples,” paper presented to a program of the Economics Committee of the ABA Antitrust Section, September 5, 1997 (with J. Hausman).

Discussant, “New Developments in Antitrust” session, AEA meetings, January 7, 2000.

“In Defense of Merger Simulation,” Department of Justice and Federal Trade Commission Merger Workshop, Unilateral Effects Session, February 18, 2004.

Discussant, “Proving Damages in Difficult Cases: Mock Trial & Discussion,” NERA Antitrust & Trade Regulation Seminar, July 10, 2004.

“Network Effects, First Mover Advantage, and Merger Simulation in Damages Estimation,” LSI Workshop on Calculating and Proving Patent Damages, July 16, 2004.

“Early Exchange of Documents,” LSI Workshop on Pre- and Early Stage Patent Litigation, July 23, 2004.

“Lessons Learned From Problems With Expert Testimony: Antitrust Suits,” LSI Workshop on Effective Financial Expert Testimony, November 4, 2004.

“Price Erosion and Convoys Sales,” LSI Workshop on Calculating & Proving Patent Damages, January 19, 2005.

“Economic Analysis of Rule 23(b)(3),” LSI Litigating Class Action Suits Conference, June 6, 2005.

“Early Exchange of Documents,” LSI Workshop on Pre- & Early-Stage Patent Litigation, July 22, 2005.

“Issues to Consider in a Lost Profits Damages Analysis,” Patent Litigation 2005, Practising Law Institute, September 30, 2005.

“Antitrust Issues in Standard Setting and Patent Pools,” Advanced Software Law and Practice Conference, November 3, 2005.

“New Technologies for Calculating Lost Profits,” LSI Workshop on Calculating & Proving Patent Damages, February 27, 2006.

“Estimating Antitrust Damages,” Fair Trade Commission of Japan, April 21, 2006.

“Economic Analysis of Rule 23(b)(3),” LSI Litigating Class Action Suits Conference, May 11, 2006.

“Permanent Injunction or Damages: What is the Right Remedy for Non-Producing Entities?,” San Francisco Intellectual Property Law Association/Los Angeles Intellectual Property Law Association Spring Seminar, May 20, 2006.

“Antitrust Enforcement in the United States” and “Economic Analysis of Mergers,” Sino-American Symposium on the Legislation and Practice of Anti-Trust Law, Beijing Bar Association, Beijing, People’s Republic of China, July 17, 2006.

“Economic Analysis in Antitrust,” Chinese Academy of Social Sciences, Beijing, People’s Republic of China, July 20, 2006.

“Issues to Consider in a Lost Profits Damages Analysis,” Patent Litigation 2006, Practising Law Institute, September 26, 2006.

“Comparison of the Almost Ideal Demand System and Random Coefficient Models for Use With Retail Scanner Data,” Pacific Rim Conference, Western Economic Association, Beijing, People’s Republic of China, January 12, 2007 (with F. Deng).

Discussant, “Applied Economics” Session, Pacific Rim Conference, Western Economic Association, Beijing, People’s Republic of China, January 12, 2007.

“Balancing IPR Protection and Economic Growth in China,” International Conference on Globalization and the Protection of Intellectual Property Rights, Chinese University of Political Science and Law, Beijing, People’s Republic of China, January 20, 2007.

“The Use and Abuse of Daubert Motions on Damages Experts: Lessons from Recent Cases,” LSI Workshop on Calculating & Proving Patent Damages, February 27, 2007.

“Will Your Licenses Ever be the Same? Biotechnology IP Strategies,” BayBio 2007 Conference, April 26, 2007.

“Tension Between Antitrust Law and IP Rights,” Seminar on WTO Rules and China’s Antimonopoly Legislation, Beijing, People’s Republic of China, September 1, 2007.

“Issues to Consider in a Lost Profits Damages Analysis,” Patent Litigation 2007, Practising Law Institute, September 25, 2007.

Discussant, “Dominance and Abuse of Monopoly Power” Session, China’s Competition Policy and Anti-Monopoly Law, J. Mirrlees Institute of Economic Policy Research, Beijing University, and the Research Center for Regulation and Competition, Chinese Academy of Social Sciences, Beijing, People’s Republic of China, October 14, 2007.

“Opening Remarks,” Seminar on China’s Anti-monopoly Law and Regulation on Abuse of Intellectual Property Rights, Beijing, People’s Republic of China, April 26, 2008.

"Issues to Consider in a Reasonable Royalty Damages Analysis," Patent Litigation 2008, Practising Law Institute, October 7, 2008.

"Econometric Evaluation of Competition in Local Retail Markets," Federal Trade Commission and National Association of Attorneys General Retail Mergers Workshop, December 2, 2008

"Merger Review Best Practices: Competitive Effects Analysis," International Seminar on Anti-Monopoly Law: Procedure and Substantive Assessment in Merger Control, Beijing, People's Republic of China, December 15-17, 2008.

"The Use of Natural Experiments in Antitrust," Renmin University, Beijing, People's Republic of China, December 18, 2008.

"China's Antimonopoly Law: An Economist's Perspective," Bloomberg Anti-Monopoly Law of China Seminar, January 29, 2009.

Panelist, "Standards for Assessing Patent Damages and Their Implementation by Courts," FTC Hearings on the Evolving IP Marketplace, February 11, 2009.

"Economic Analysis of Agreements Between Competitors" and "Case Study: FTC Investigates Staples' Proposed Acquisition of Office Depot," Presentation to Delegation of Antitrust Officials from the People's Republic of China, Washington, DC, March 23, 2009.

"Reasonable Royalties in the Presence of Standards and Patent Pools," LSI Workshop, April 20, 2009.

Presentations on Unilateral Effects, Buyer Power, and the Intellectual Property-Antitrust Interface to Delegation from the Anti-Monopoly Bureau of MOFCOM of the People's Republic of China, Washington, DC, May 10-11, 2009.

Panelist, "The Use of Economic and Statistical Models in Civil and Criminal Litigation," Federal Bar Association, San Francisco, May 13, 2009.

"Trends in IP Rights Litigation and Economic Damages in China," Pursuing IP in the Pacific Rim, May 14, 2009.

Presentation on the Economics of Antitrust, National Judicial College of the People's Republic of China, Xi'an, People's Republic of China, May 25-26, 2009.

"Case Study: The Use of Economic Analysis in Merger Review," Presentation to the Anti-Monopoly Bureau of MOFCOM, Beijing, People's Republic of China, May 27, 2009.

"Economics and Antitrust Law," China University of Political Science and Law, Beijing, People's Republic of China, September 21, 2009.

“Case Study: Economic Analysis of Coordinated Interaction,” Presentation to the Anti-Monopoly Bureau of MOFCOM, Beijing, People’s Republic of China, September 22, 2009.

“Relevant Market Definition,” 4<sup>th</sup> Duxes Antitrust Law Seminar, Beijing, People’s Republic of China, September 26, 2009.

“Expert Economic Testimony in Antitrust Litigation,” Supreme People’s Court, Beijing, People’s Republic of China, February 2, 2010.

“New Case Law for Patent Damages,” Law Seminars International Telebriefing, April 28, 2010.

“China/India: Sailing in Uncharted Waters: Regulating Competition in the Emerging Economies – New Laws, New Enforcement Regimes and No Precedents,” The Chicago Forum on International Antitrust Issues, Northwestern University School of Law Searle Center, May 20, 2010.

“Antitrust and Intellectual Property,” Supreme People’s Court, Beijing, People’s Republic of China, May 26, 2010.

“Cartel Enforcement Trends in the United States,” 2<sup>nd</sup> Ethical Beacon Anti-Monopoly Summit, Beijing, People’s Republic of China, May 27, 2010.

Panelist, “The Future of Books and Digital Publishing: the Google Book Settlement and Beyond,” 2010 American Bar Association Annual Meeting, August 7, 2010.

“Coordinated Effects” and “Non-Horizontal Mergers,” Presentations to Delegation from India Competition Commission, US Chamber of Commerce, Washington, DC, October 26, 2010.

“UPP and Merger Simulation,” Annual Conference of the Association of Competition Economics, Norwich, UK, November 11, 2010.

“Uniloc v. Microsoft: A Key Ruling For Patent Damages,” Law Seminars International Telebriefing, January 21, 2011.

“Correlation, Regression, and Common Proof of Impact,” New York City Bar Association, January 19, 2011.

“Private Litigation Under China’s New Antimonopoly Law,” Bar Association of San Francisco, February 17, 2011.

“Competition Law and State Regulation: Setting the Stage and Focus on State-Owned Enterprises,” Competition Law and the State: International and Comparative Perspectives, Hong Kong, People’s Republic of China, March 18, 2011.

Panelist, “Booking it in Cyberspace: The Google Book Settlement and the Aftermath,” American Intellectual Property Law Association, San Francisco, May 13, 2011.

“Econometric Estimation of Cartel Overcharges,” ZEW Conference on Economic Methods and Tools in Competition Law Enforcement, Mannheim, Germany, June 25, 2011.

Panelist, “Antitrust and IP in China,” Antitrust and IP in Silicon Valley and Beyond, American Bar Association and Stanford University, Palo Alto, October 6, 2011.

Panelist, University of San Diego School of Law Patent Law Conference: The Future of Patent Law Remedies, January 18, 2013.

“Economics Framework,” US-China Workshop on Competition Law and Policy for Internet Activities, China’s State Administration for Industry and Commerce (SAIC) and the U.S. Trade and Development Agency (USTDA), Shenzhen, People’s Republic of China, June 4-5, 2013.

Panelist, “China Inside and Out,” American Bar Association, Beijing, People’s Republic of China, September 16-17, 2013.

Panelist, “Remedies in Patent Cases,” Fifth Annual Conference on The Role of the Courts in Patent Law & Policy, Berkeley and Georgetown Law Schools, November 1, 2013.

“Royalty Base,” LeadersHIP Conference, Qualcomm Incorporated, March 21, 2014.

“Reflections on Natural Experiments,” DG Comp, April 8, 2014.

Panelist, “Antitrust in Asia: China,” American Bar Association Section of Antitrust Law, Beijing, People’s Republic of China, May 21-23, 2014.

Panelist, “Patent Damages Roundtable,” 2015 Intellectual Property Institute, University of Southern California Gould School of Law, Los Angeles, March 23, 2015.

Panelist, “IP and Antitrust - The Current State of Economic Analysis,” Global Competition Review Live 2nd Annual IP & Antitrust USA, Washington, DC, April 14, 2015.

Panelist, “FRAND Royalty Rates After Ericsson v. D-Link,” American Bar Association, May 15, 2015.

## PROFESSIONAL ACTIVITIES

Member, American Economic Association

Member, Econometric Society

Member, American Bar Association

Contributor, [www.antitrust.org](http://www.antitrust.org)

Contributor, ABA Section of Antitrust Law, *Econometrics*, 2005

Associate Editor, *Antitrust*, 2007-2010

Senior Editor, *Antitrust Law Journal*, 2012-; Associate Editor, 2010-2012

Co-Editor, ABA Section of Antitrust Law Economics Committee Newsletter, 2009-2012

Member, Economics Task Force, ABA Section of Antitrust Law, 2011-2012

Member, ABA Delegation to International Seminar on Anti-Monopoly Law: Procedure and Substantive Assessment in Merger Control, Beijing, People's Republic of China, December 15-17, 2008

Member, Working Group for drafting the "Joint Comments of the American Bar Association Section of Antitrust Law and Section of International Law on the MOFCOM Draft Guidelines for Definition of Relevant Markets," 2009

Member, Working Group for drafting the "Joint Comments of the American Bar Association Section of Antitrust Law and Section of International Law on the SAIC Draft Regulations on the Prohibition of Acts of Monopoly Agreements and of Abuse of Dominant Market Position," 2009.

Member, Working Group for drafting the "Joint Comments of the American Bar Association Section of Antitrust Law and Section of International Law on the SAIC Draft Regulations on the Prohibition of Acts of Monopoly Agreements and of Abuse of Dominant Market Position," 2010.

Referee: *Econometrica*, *Review of Economics and Statistics*, *International Journal of Industrial Organization*, *Review of Industrial Organization*, *Journal of Sports Economics*, *Journal of Environmental Economics and Management*, *Research in Law and Economics*, *Labour Economics*, *Eastern Economic Journal*, *Journal of Forensic Economics*, *Antitrust*, *Antitrust Law Journal*, *Journal of Competition Law and Economics*, *Advances in Econometrics*.

## TESTIMONY IN THE LAST FIVE YEARS

*Edwards Lifesciences AG and Edwards Lifesciences, LLC v. CoreValve, Inc.*, United States District Court for the District of Delaware, C.A. No. 08-091 (GMS), 2009-2011 (Report, Deposition, Updated Report, Trial Testimony, Declarations).

*WiAV Solutions, LLC v. Motorola, Inc., et al.*, United States District Court, Eastern District of Virginia, Richmond Division, Civil Action No. 3:09-cv-447-REP, 2010 (Report, Deposition).

*In the Matter of CERTAIN NOTEBOOK COMPUTER PRODUCTS AND COMPONENTS THEREOF*, before the United States International Trade Commission, Inv. No. 337-TA-705, 2010 (Report, Deposition).

*Technology Patents, LLC v. Deutsche Telekom AG, et al.*, United States District Court, District of Maryland, Civil Action No. 8:07-cv-03012-AW, 2010 (Report).

*Hollister Incorporated. v. C.R. Bard, Inc.*, United States District Court, Northern District of Illinois, Eastern Division, Civil Case No. 10-6427, 2011 (Deposition).

*Quercus Trust v. LiveFuels, Inc., et al.*, Superior Court for the State of California, Civil No. 488685, 2011 (Deposition).

*In re: Budeprion XL Marketing and Sales Practices Litigation*, Civil Action 2:09-CV-2811, MDL Docket No. 2017, 2011 (Deposition).

*Convolve, Inc. v. Dell Inc., et al.*, United States District Court, Eastern District of Texas, Marshall Division, Case No. No. 2:08-cv-244, 2011 (Deposition, Trial Testimony).

*In the Matter of CERTAIN WIRELESS COMMUNICATION DEVICES, PORTABLE MUSIC AND DATA PROCESSING DEVICES, COMPUTERS AND COMPONENTS THEREOF*, before the United States International Trade Commission, Investigation No. 337-TA-745, 2011 (Deposition).

*In the Matter of CERTAIN MOBILE DEVICES, ASSOCIATED SOFTWARE, AND COMPONENTS THEREOF*, before the United States International Trade Commission, Investigation No. 337-TA-744, 2011 (Deposition).

*Oracle America, Inc. v. Google, Inc.*, United States District Court, Northern District for California, Case No. 3:10-CV-03561-WHA, 2011 (Deposition), 2016 (Report, Deposition).

*In the Matter of CERTAIN GAMING AND ENTERTAINMENT CONSOLES, RELATED SOFTWARE, AND COMPONENTS THEREOF*, before the United States International Trade Commission, Investigation No. 337-TA-752, 2011 (Deposition).

*General Atomics v. Paul Banks and TetraVue, Inc.*, Superior Court of the State of California, Case No. 37-2009-00084081-CU-BC-CTL, 2011 (Deposition, Trial Testimony).

*Apple Inc., v. Motorola, Inc.*, United States District Court, Western District of Wisconsin, Case No. 10-CV-662 (BBC), 2011 (Deposition).

*Genentech, Inc. and City of Hope v. Glaxo Group, Limited, et al.*, United States District Court, Central District of California, Western Division, Case No. 2:10-CV-02764-MRP (FMOx), 2011 (Deposition).

*In the Matter of CERTAIN HANDHELD COMPUTING DEVICES, RELATED SOFTWARE, AND COMPONENTS THEREOF*, before the United States International Trade Commission, Investigation No. 337-TA-769, 2011 (Deposition, Trial Testimony).

*In the Matter of CERTAIN EQUIPMENT FOR COMMUNICATIONS NETWORKS, INCLUDING SWITCHES, ROUTERS, WIRELESS ACCESS POINTS, CABLE MODEMS, IP PHONES, AND PRODUCTS CONTAINING SAME*, before the United States International Trade Commission, Investigation No. 337-TA-778, 2012 (Deposition).

*Plantronics, Inc. v. Aliph, Inc.*, United States District Court for the Northern District of California, San Francisco Division, Case No. C09-01714 BZ, 2012 (Deposition).

*Commonwealth Scientific and Industrial Research Organization v. Lenovo, Inc., et al.*, United States District Court for the Eastern District of Texas, Tyler Division, Case No. 6:09-cv-00400-LED, 2012 (Deposition).

*Bayer HealthCare LLC v. Pfizer Inc.*, United States District Court, Northern District of Illinois, Eastern Division, Civil Action No. 1:12-cv-00630, 2012-2013 (Deposition).

*L-7 Designs, Inc. v. Old Navy, Inc.*, United States District Court, Southern District of New York, Civil Action No. 09 Civ. 1432 (DC), 2012 (Deposition).

*Apple, Inc. v. Motorola, Inc.*, United States District Court, Northern District of Illinois, Case No. 11-c-08540, 2012 (Deposition).

*ITT Manufacturing Enterprises, Inc. v. Celco Partnership, et al.*, United States District Court, District of Delaware, Civil Action No. 09-190-LPS, 2012 (Deposition).

*Shelbyzyme LLC v. Genzyme Corporation*, United States District Court, District of Delaware, Civil Action No. 09-768 (GMS), 2012 (Deposition, Trial Testimony).

*In the Matter of CERTAIN DEVICES FOR IMPROVING UNIFORMITY USED IN A BACKLIGHT MODULE AND COMPONENTS THEREOF AND PRODUCTS CONTAINING THE SAME*, before the United States International Trade Commission, Investigation No. 337-TA-805, 2012 (Deposition, Trial Testimony).

*Rachel Eastman, et al. v. First Data Corporation, et al.*, United States District Court, District of New Jersey, Case No. 2:10-cv-04860 (WHW) (MCA), 2012 (Deposition).

*In the Matter of CERTAIN COMMUNICATIONS EQUIPMENT COMPONENTS THEREOF, AND PRODUCTS CONTAINING THE SAME, INCLUDING POWER OVER ETHERNET TELEPHONES, SWITCHES, WIRELESS ACCESS POINTS, ROUTERS AND OTHER DEVICES USED IN LANs, AND CAMERAS*, before the United States International Trade Commission, Investigation No. 337-TA-817, 2012 (Deposition).

*Fujitsu Limited v. Belkin, et al.*, United States District Court, Northern District of California, San Jose Division, Case No. 10-cv-03972-LHK(PSG), 2012 (Deposition, Trial Testimony).

*Medivation, Inc. v. The Regents of the University of California, et al.*, Superior Court of the State of California, Case No. CGC-11-510715, 2012 (Deposition, Trial Testimony).

*In Re Photochromic Lens Antitrust Litigation* (Direct Purchaser Action), United States District Court for the Middle District of Florida, Tampa Division, MDL Docket No. 2173, 2012 (Deposition, Hearing Testimony).

*In Re Photochromic Lens Antitrust Litigation* (Indirect Purchaser Actions), United States District Court for the Middle District of Florida, Tampa Division, MDL Docket No. 2173, 2012 (Deposition, Hearing Testimony).

*In the Matter of CERTAIN PRODUCTS CONTAINING INTERACTIVE PROGRAM GUIDE AND PARENTAL CONTROL TECHNOLOGY*, before the United States International Trade Commission, Investigation No. 337-TA-845, 2012 (Deposition, Trial Testimony).



*In the Matter of CERTAIN COMPUTERS AND COMPUTER PERIPHERAL DEVICES AND COMPONENTS THEREOF AND PRODUCTS CONTAINING THE SAME*, before the United States International Trade Commission, Investigation No. 337-TA-841, 2012-2013 (Trial Testimony).

*Gemalto SA v. HTC Corporation, et al.*, United States District Court for the Eastern District of Texas, Tyler Division, Civil Action No. 6:10-CV-561-LED, 2013 (Deposition).

*Adobe Systems Incorporated v. Wowza Media Systems, LLC, et al.*, United States District Court for the Northern District of California, Oakland Division, Case No. cv 11-02243, 2013 (Deposition).

*In the Matter of CERTAIN AUDIOVISUAL COMPONENTS AND PRODUCTS CONTAINING THE SAME*, before the United States International Trade Commission, Investigation No. 337-TA-837, 2013 (Deposition).

*Ericsson Inc., et al. v. D-Link Corporation, et al.*, United States District Court for the Eastern District of Texas, Tyler Division, Civil Action No. 6:10-cv-473, 2013 (Deposition, Trial Testimony).

*Edwards Lifesciences v. Medtronic CoreValve, et al.*, United States District Court for the District of Delaware, Case No. 12-23 (GMS), 2013 (Deposition, Trial Testimony).

*Intellectual Ventures I LLC v. Trend Micro Incorporated and Trend Micro, Inc. (USA)*, United States District Court for the District of Delaware, C. A. No. 12-cv-1581-LPS, 2013 (Deposition).

*The Money Suite Company v. Insurance Answer Center, LLC, et al.*, United States District Court for the Central District of California, Southern Division – Santa Ana, Lead Case No. 11-SACV-01847 AG (JPRx), 2013 (Deposition).

*ParkerVision Inc. v. Qualcomm Incorporated*, United States District Court for the Middle District of Florida, Jacksonville Division, Case No.: 3:11-cv-719-J-37-TEM, 2013 (Deposition, Trial Testimony).

*Medtronic, Inc. v. Edwards Lifesciences Corporation, et al.*, United States District Court for the Central District of California, Case No.: SACV 12-00327 JVS (JPRx), 2013 (Deposition).

*Microsoft Corporation v. Motorola Inc., et al.*, United States District Court for the Western District of Washington, Seattle Division, Case No. C10-1823JLR, 2013 (Deposition, Trial Testimony).

*In the Matter of CERTAIN INTEGRATED CIRCUIT CHIPS AND PRODUCTS CONTAINING SAME*, before the United States International Trade Commission, Investigation No. 337-TA-859, 2013 (Deposition, Trial Testimony).

*Realtek Semiconductor Corporation v. LSI Corporation and Agere Systems, Inc.*, United States District Court Northern District of California, San Jose Division, Case No. 5:12-cv-03451 RMW, 2013 (Deposition, Trial Testimony).

*Acer Inc., Acer America Corporation, and Gateway Inc. v. Technology Properties Limited, Patriot Scientific Corporation, and Alliacense Limited*, United States District Court for the Northern District of California, San Jose Division, Case No. 5:08-cv-00877 PSG, 2013 (Deposition).

*Intervet Inc. d/b/a Merck Animal Health, The Arizona Board of Regents on behalf of The University of Arizona v. Boehringer Ingelheim Vetmedica, Inc.*, United States District Court for the District of Delaware, Case No. 11-595-LPS, 2013 (Deposition).

*In Re Innovatio IP Ventures, LLC Patent Litigation*, United States District Court for the Northern District of Illinois, Case No. 1:11-cv-09308, 2013 (Deposition, Trial Testimony).

*In the Matter of CERTAIN OMEGA-3 EXTRACTS FROM MARINE OR ACQUATIC BIOMASS AND PRODUCTS CONTAINING THE SAME*, before the United States International Trade Commission, Investigation No. 337-TA-877, 2013 (Deposition).

*Open Text SA v. Box Inc.*, United States District Court for the Eastern District of Virginia, Norfolk Division, Civil Action No. 2:13-CV-00319-MSD-DEM, 2013-2015 (Deposition, Trial Testimony).

*Apple Inc. and Apple Sales International v. Motorola Mobility LLC*, United States District Court for the Southern District of California, Case No. 3:12-cv-00355-GPC-BLM, 2013 (Deposition).

*iControl Networks, Inc. v. Alarm.com Incorporated and Frontpoint Security Solutions, LLC*, United States District Court for the Eastern District of Virginia, Alexandria Division, Case No. 1:13cv834 (LMB-IDD), 2013 (Deposition).

*Affinity Labs of Texas, LLC v. General Motors LLC*, United States District Court for the District of Eastern District of Texas, Beaumont Division, C.A. No. 1:12-cv-00582-RC, 2014 (Deposition).

*W.L. Gore & Associates, Inc. v. C.R. Bard, Inc. and Bard Peripheral Vascular, Inc.*, United States District Court for the District of Delaware, C.A. No. 11-515-LPS-CJB, 2014 (Deposition).

*Richard Noll and Rhythm Motor Sports, LLC v. eBay Inc., eBay Europe S.A.R.L., and eBay International AG, Inc.*, United States District Court for the Northern District of California, San Jose Division, Case No. 5:11-CV-04585-EJD, 2014 (Deposition).

*Bristol-Myers Squibb Company v. Genentech Inc. and City of Hope*, United States District Court for the Northern District of California, Western Division, Case No. 2:13-CV-05400-MRP (JEMx), 2014 (Report, Deposition).

*Eli Lilly and Imclone v. Genentech Inc. and City of Hope*, United States District Court for the Northern District of California, Western Division, Case No. 2:13-CV-07248-MRP, 2014 (Deposition).

*Graftech International Ltd. and Graftech International Holdings Inc. F/K/A UCAR Carbon Company Inc. v. Carbone Savoie, Alcan France and Rio Tinto Alcan*, International Chamber of Commerce, International Court of Arbitration, Case Ref.: 19798/AGF, 2014 (Report, Hearing Testimony).

*Merit Medical Systems, Inc. v. Bard Access Systems, Inc.*, in the Third Judicial District Court for Salt Lake County, State of Utah, Civil No.: 130902435, 2014 (Report).

*Samsung Electronics Co., Ltd. (Korea) v. Nokia Corporation (Finland)*, International Chamber of Commerce, International Court of Arbitration, Case Ref.: 19602/AGF/RD (c.19638/AGF), 2015 (Reports, Hearing Testimony).

*Commonwealth Scientific and Industrial Research Organisation v. Mediatek Inc., et al.*, United States District Court for the Eastern District of Texas, Tyler Division, Case No. 6:12-cv-578 (LED), 2015 (Report, Rebuttal Report).

*In the Matter of an Arbitration Under the Arbitration Act 1996 Between Teva Pharmaceutical Industries, Ltd. Teva Pharmaceuticals USA, Inc. and Starr Syndicate Limited*, 2015 (Report).

*In the Matter of CERTAIN NETWORK DEVICES, RELATED SOFTWARE, AND COMPONENTS THEREOF (I)*, before the United States International Trade Commission, Investigation No. 337-TA-944, 2015 (Report, Deposition).

*Broadband iTV, Inc. v. Hawaiian Telecom, Inc., Oceanic Time Warner Cable, LLC, and Time Warner Cable, Inc.*, United States District Court for the District of Hawaii, Case No. 14-00169 ACK-RLP, 2015 (Declaration, Report, Deposition).

*In the Matter of CERTAIN NETWORK DEVICES, RELATED SOFTWARE, AND COMPONENTS THEREOF (II)*, before the United States International Trade Commission, Investigation No. 337-TA-945, 2015 (Report, Deposition, Hearing Testimony).

*SRI International, Inc. v. Cisco Systems, Inc.*, United States District Court for the District of Delaware, Case No. 13-1534 (SLR), 2015 (Report), 2016 (Deposition).

*Enzo Life Sciences, Inc. v. Agilent Technologies, Inc.*, United States District Court for the District of Delaware, Case No. 1:12-cv-00434, 2015 (Report).

*ChriMar Systems, Inc., et al. v. Cisco Systems, Inc., et al.*, United States District Court for the District of Northern California, Oakland Division, Case No. 4:13-cv-01300-JSW, 2016 (Reports, Deposition).

*TCL Communication Technology Holdings, LTD., et al., v. Telefonaktiebolaget LM Ericsson, et al.*, United States District Court for the Central District of California, Southern Division, Case No. SACV14-00341 JVS (DFMx), 2016 (Report).

## SELECTED MERGER EXPERIENCE

R.R. Donnelley/Meredith Burda (1990-1993): Merger of printing companies. Reviewed by the FTC. Preliminary Injunction Hearing. Part III Hearing.

Kimberly-Clark/Scott (1995): Merger of manufacturers of tissue products. Reviewed by the DOJ and the European Commission.

Staples/Office Depot (1996-1997): Proposed merger of office supply retailers. Reviewed by the FTC. Preliminary injunction hearing.

IMC/Western Ag (1997): Merger of mining companies. Reviewed by the DOJ.

Dow/Union Carbide (1999-2001): Merger of chemical manufacturers. Reviewed by the FTC.

Volvo/Scania (2000): Merger of truck manufacturers. Reviewed by the European Commission.

First Data/Concord (2003-2004): Merger of companies involved in merchant acquiring and payment networks. Reviewed by the DOJ.

Bumble Bee/Connors (2004): Merger of canned seafood manufacturers. Reviewed by the DOJ.

Sonaecom/Portugal Telecom (2006): Merger of telecommunications companies. Reviewed by the Portuguese Competition Authority.

Graphic Packaging/Altimity (2007-2008): Merger of paperboard manufacturers. Reviewed by the DOJ.

Inbev/Anheuser-Busch (2008): Merger of beer manufacturers. Reviewed by the DOJ, the UK Competition Commission, and MOFCOM.

Serta/Simmons (2009): Merger of mattress manufacturers. Reviewed by the FTC.

Coty/OPI (2010): Merger of nail polish manufacturers. Reviewed by the DOJ.

Knowles/NXP (2011): Knowles acquired the speaker/receiver business of NXP. Reviewed by MOFCOM.

AT&T/T-Mobile (2011): Consulted for the DOJ regarding the proposed deal between the two wireless service providers.

Confidential engagement for consumer product manufacturer (2012): Consulted for a consumer product manufacturer considering an acquisition with potential overlap in various jurisdictions around the world.

Confidential engagement for consumer product manufacturer (2012): Consulted for a consumer product manufacturer considering an acquisition with potential overlap in numerous product lines in the US.

UPS/TNT (2013): Consulted for the Ministry of Commerce of the People's Republic of China regarding the proposed deal between two package delivery services.

Thermo Fisher/Life Technologies (2014): Consulted for the Ministry of Commerce of the People's Republic of China regarding the proposed deal.

# Appendix B

## Appendix B

### Additional Documents Considered

#### Bates Document

GOOGLE-00303867

#### Expert Reports and Depositions

Corrected Expert Report of Dr. Kearl, March 18, 2016  
 Revised Expert Report of Dr. Leonard, October 3, 2011  
 Revised Expert Report of Dr. Cockburn, September 12, 2011  
 Corrected Responsive Expert Report of Mr. Malackowski, February 29, 2016  
 Deposition of James R. Kearl, March 23, 2016  
 Expert Report of Dr. Simonson, February 8, 2016.  
 Expert Report of Professor Shugan, September 12, 2011

#### Websites

[https://www.eecs.umich.edu/eecs/undergraduate/computer-science/cse\\_guide\\_fall\\_2015.pdf](https://www.eecs.umich.edu/eecs/undergraduate/computer-science/cse_guide_fall_2015.pdf)  
<https://cs.illinois.edu/courses/profile/CS101>  
<http://lasr.cs.ucla.edu/vahab/cs31summer14/syllabus.html>  
<http://coursecatalog.web.cmu.edu/schoolofcomputerscience/>  
<https://apply.king.com/vacancy/developer-san-francisco/1141/description/>  
<https://people.rit.edu/trt6538/105/project2/>  
<http://cs.stanford.edu/degrees/undergrad/Requirements.shtml#Core>  
<https://itunes.apple.com/ca/artist/king-com-limited/id526656015>, accessed March 26, 2016  
<http://www.cnet.com/news/does-an-app-stores-size-matter-if-content-is-the-killer-app/>  
<https://play.google.com/store/apps/developer?id=King>, accessed March 26, 2016  
<http://lifehacker.com/5737659/how-to-pick-your-next-android-phone-the-specs-that-matter-and-the-onesthat-dont>  
<http://www.apple.com/pr/library/2008/07/14iPhone-App-Store-Downloads-Top-10-Million-in-First-Weekend.html>  
<http://www.phonebuff.com/2012/01/important-specs-smartphone/>  
<http://www.apple.com/pr/library/2007/06/28iPhone-Premieres-This-Friday-Night-at-Apple-Retail-Stores.html>  
[https://docs.google.com/document/d/10QsFme0XfypqQLnzPl9L\\_0ayB6mEswPJNZc2VMJcvrg/edit?pref=2&pli=1](https://docs.google.com/document/d/10QsFme0XfypqQLnzPl9L_0ayB6mEswPJNZc2VMJcvrg/edit?pref=2&pli=1)  
<http://company.king.com/news-and-media/press-releases/content/press-releases/activision-blizzard-completes-king-acquisition/>  
<http://www.royalgames.com/>  
[https://www.strategyanalytics.com/strategy-analytics/blogs/media-services/media-services-ux/media-and-services-ux/2010/10/18/do-app-stores-impact-wireless-device-sales-#.Vh0dY\\_IVhBc](https://www.strategyanalytics.com/strategy-analytics/blogs/media-services/media-services-ux/media-and-services-ux/2010/10/18/do-app-stores-impact-wireless-device-sales-#.Vh0dY_IVhBc)

#### Other Documents

A. Petrin, "Quantifying the Benefits of New Products: The Case of the Minivan," *Journal of Political Economy*, 2002  
 D. Altig, et al., "Simulating Fundamental Tax Reform in the United States," *American Economic Review*, June 2001  
 Börsch-Supan, et al., "Aging, Pension Reform, and Capital Flows: A Multi-Country Simulation Model," 2005  
 E. Bailey, G. Leonard, and M. Lopez, "Making Sense of Apportionment in Patent Damages," *Columbia Science and Technology Law Review*, 2011  
 G. Werden, L. Froeb, and L. Beavers, "Economic Analysis of Lost Profits From Patent Infringement With and Without Noninfringing Substitutes," *AIPLA Quarterly Journal*, 1999  
 J. Hausman, "Specification and Estimation of Simultaneous Equations Models," in *Handbook of Econometrics*, 1983  
 J. Hausman, G. Leonard, and D. McFadden, "A Utility-Consistent, Combined Discrete Choice and Count Data Model Assessing Recreational Use Losses Due to Natural Resource Damage," *Journal of Public Economics*, 1995  
 Jaffe, et al., "The Induced Innovation Hypothesis and Energy-Saving Technological Change," *The Quarterly Journal of Economics*, August 1999  
 S. Berry, J. Levinsohn, and A. Pakes, "Automobile Prices in Market Equilibrium," *Econometrica*, 1995  
 S. Imrohoroglu and S. Kitao "Labor Supply Elasticity and Social Security Reform," *Journal of Public Economics* 93 (2009)

# Exhibits

**Exhibit 1a**  
**Revision to Dr. Kearl's Scenario 3 Analysis**  
**With Inclusion of Apps with a Microsoft Counterpart, Corporate Apps and Non-Java Gaming Apps**  
**Jan. 2008 - Dec. 2015**

	2008 (a)	2009 (b)	2010 (c)	2011 (d)	2012 (e)	2013 (f)	2014 (g)	2015 (h)	Total (i)
<b>Revenue (Share Loss)</b>									
Ads	\$ 0.0	\$ 0.3	\$ 2.1	\$ 10.0	\$ 37.7	\$ 70.0	\$ 121.5	\$ 296.4	\$ 537.9
Hardware	--	--	1.8	0.0	4.8	11.1	3.9	8.5	30.2
Apps	0.0	0.0	0.1	0.6	2.2	19.1	32.9	77.0	132.0
Digital Content	--	--	--	0.2	1.7	4.0	6.5	14.8	27.2
<b>Total</b>	<b>\$ 0.0</b>	<b>\$ 0.3</b>	<b>\$ 4.1</b>	<b>\$ 10.8</b>	<b>\$ 46.4</b>	<b>\$ 104.2</b>	<b>\$ 164.8</b>	<b>\$ 396.7</b>	<b>\$ 727.3</b>
<b>Cost of Sales (Share Loss)</b>									
TAC	\$ 0.0	\$ 0.1	\$ 0.7	\$ 1.9	\$ 9.7	\$ 19.7	\$ 34.4	\$ 83.8	\$ 150.2
Hardware	--	--	--	0.0	5.4	13.4	4.9	12.1	35.8
Apps	--	--	--	0.0	1.0	11.4	12.3	19.6	44.2
Digital Content	--	--	--	0.4	2.7	5.0	6.9	15.6	30.6
Infrastructure & Other COS	--	--	--	1.1	1.5	1.6	3.4	9.5	17.2
Operations	0.0	0.0	0.1	--	--	--	--	--	0.1
COS (including DTC)	0.0	0.0	1.7	--	--	--	--	--	1.8
<b>Total</b>	<b>\$ 0.0</b>	<b>\$ 0.1</b>	<b>\$ 2.5</b>	<b>\$ 3.3</b>	<b>\$ 20.3</b>	<b>\$ 51.1</b>	<b>\$ 61.9</b>	<b>\$ 140.6</b>	<b>\$ 279.9</b>
<b>Gross Profit</b>									
Total Gross Profit	\$ 0.0	\$ 0.2	\$ 1.5	\$ 7.4	\$ 26.1	\$ 53.1	\$ 103.0	\$ 256.1	\$ 447.5
Gross Margin (%)	44.1 %	78.3 %	37.6 %	69.0 %	56.3 %	51.0 %	62.5 %	64.5 %	61.5 %
<b>Operating Expenses (Share Loss)</b>									
Android Engineering PM	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --	\$ --
Android Marketing	--	--	--	--	--	--	--	--	--
Android Legal	--	--	--	--	--	--	--	--	--
Android Sales and Other	--	--	--	--	--	--	--	--	--
Android General and Administrative	--	--	--	--	--	--	--	--	--
Incremental Search and Advertising Expenses	0.0	0.0	0.2	0.8	3.1	5.8	10.0	24.5	44.4
<b>Total</b>	<b>\$ 0.0</b>	<b>\$ 0.0</b>	<b>\$ 0.2</b>	<b>\$ 0.8</b>	<b>\$ 3.1</b>	<b>\$ 5.8</b>	<b>\$ 10.0</b>	<b>\$ 24.5</b>	<b>\$ 44.4</b>
Android Advertising Share Loss	1.8 %	1.8 %	1.8 %	1.8 %	1.8 %	1.5 %	1.3 %	2.4 %	
Google Play Share Loss	1.6	1.6	1.6	1.6	1.6	1.3	1.2	2.2	
Diversion Ratio	43.9	43.9	43.9	43.9	43.9	41.0	40.5	42.5	
Search Share	100.0	76.0	67.3	76.9	67.1	64.9	65.2	68.6	
Gross Loss of Profit	\$ 0.0	\$ 0.2	\$ 1.4	\$ 6.6	\$ 23.0	\$ 47.3	\$ 92.9	\$ 231.6	\$ 403.0
iPhone Offset	(0.0)	(0.1)	(0.4)	(2.6)	(9.3)	(15.6)	(26.6)	(67.5)	(122.2)
<b>Net Loss of Profit</b>	<b>\$ 0.0</b>	<b>\$ 0.1</b>	<b>\$ 0.9</b>	<b>\$ 4.0</b>	<b>\$ 13.7</b>	<b>\$ 31.7</b>	<b>\$ 66.3</b>	<b>\$ 164.0</b>	<b>\$ 280.8</b>



Notes: In millions of U.S. dollars.

Ads revenue, TAC and incremental search and advertising expenses are from Exhibit 1a.1 (Leonard Report, February 8, 2016) and multiplied by the Android share loss. Revenue and COS for hardware, apps and digital content are from Exhibit 1a.1 (Leonard Report, February 8, 2016) and multiplied by the Google Play share loss. For the share loss refer to Exhibit 1b (Leonard Report, March 28, 2016). For the 2008 share loss, 2009 is used.

The gross loss of profit is calculated as (total revenue - total COS - incremental search and advertising expenses).

The iPhone offset calculated as (diversion ratio)\*[(Revenue-TAC)\*(1-search share\*1.67/8.41)-incremental search and operating expenses].

For the diversion ratio refer to Exhibit 1b (Leonard Report, March 28, 2016). For the 2008 diversion ratio, 2009 is used.

For the search share refer to search advertising as a share of Android advertising revenue from Exhibit 1c (Leonard Report, February 8, 2016).

The annual margin impact figures of \$8.41 and \$1.67 are from GOOG-00130338 at 343.

Net loss of profit is the gross loss of profit with the added iPhone offset.

Sources: Exhibit 1a.1, Corrected Expert Report of Dr. Leonard, February 8, 2016.

Exhibit 1c, Corrected Expert Report of Dr. Leonard, February 8, 2016.

Exhibit 1b, Expert Report of Dr. Leonard, March 28, 2016.

Corrected Expert Report of Dr. Kearl, March 18, 2016.

GOOG-00130338.

**Exhibit 1b**  
**Revision to Dr. Kearl's Scenario 3 Analysis**  
**Overall Revenue Loss Percentages and Diversion Ratios**

**2009 - 2015**

	<u>2009</u> (a)	<u>2010</u> (b)	<u>2011</u> (c)	<u>2012</u> (d)	<u>2013</u> (e)	<u>2014</u> (f)	<u>2015</u> (g)
<b><u>Percentage of Revenue in the U.S.</u></b>							
Percentage of Ad Revenue in the U.S.				45.6 %	45.6 %	45.6 %	45.6 %
Percentage of Play Revenue in the U.S.				23.2	23.2	23.2	23.2
<b><u>Revenue Loss and Diversion Ratio</u></b>							
Ad Revenue Loss	-1.8 %	-1.8 %	-1.8 %	-1.8 %	-1.5 %	-1.3 %	-2.4 %
Ad Revenue Diversion Ratio (from Android to iOS)	43.9	43.9	43.9	43.9	41.0	40.5	42.5
Play Revenue Loss	-1.6	-1.6	-1.6	-1.6	-1.3	-1.2	-2.2

Notes: The revenue loss and diversion ratios for 2009, 2010, and 2011 are set equal to 2012 values.

The percentage of Ad revenue and Play revenue in the U.S. are set equal to the 2013 value.

Sources: Exhibit 1c, Expert Report of Dr. Leonard, March 28, 2016.

Exhibit 3d.4, Corrected Expert Report of Dr. Leonard, February 8, 2016.

Exhibit 3d.5, Corrected Expert Report of Dr. Leonard, February 8, 2016.

**Exhibit 1c**  
**Revision to Dr. Kearl's Scenario 3 Analysis**  
**User Loss and Diversion Ratios For the U.S. and Rest of the World**  
**2012-2015**

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
	(a)	(b)	(c)	(d)
<b><u>United States</u></b>				
User Loss	-2.2 %	-1.9 %	-1.6 %	-3.1 %
Diversion Ratio (Android to iOS)	56	56.8	55.3	57.3
<b><u>Rest of the World</u></b>				
User Loss	-1.4 %	-1.2 %	-1.0 %	-1.9 %
Diversion Ratio (Android to iOS)	33.8	27.8	28	30
<b><u>Worldwide</u></b>				
Diversion Ratio (Android to iOS)	36.7 %	30.5 %	30.5 %	32.2 %

Source: Calculations.

**Exhibit 1d**  
**List of Apps Excluded from Dr. Kearl's Scenario 3 Analysis**

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1	com.facebook.katana	Free	Facebook	Yes	Yes	No	Yes
2	com.pandora.android	Free	Pandora® Radio	Yes	Yes	No	Yes
3	com.skype.raider	Free	Skype - free IM & video calls	Yes	Yes	No	Yes
4	com.surpax.ledflashlight.panel	Free	Super-Bright LED Flashlight	Yes	No	No	Yes
5	net.zedge.android	Free	ZEDGE™ Ringtones & Wallpapers	Yes	No	No	No
6	com.yahoo.mobile.client.android.mail	Free	Yahoo Mail – Free Email App	No	Yes	No	No
7	com.sgiggle.production	Free	Tango - Free Video Call & Chat	Yes	No	No	Yes
8	com.weather.Weather	Free	The Weather Channel	Yes	Yes	No	Yes
9	com.cleanmaster.mguard	Free	Clean Master (Boost & AppLock)	No	No	No	N/A
10	com.clearchannel.iheartradio.controller	Free	iHeartRadio Free Music & Radio	Yes	Yes	No	Yes
11	com.gameloft.android.ANMP.GloftDMHM	Free	Despicable Me	Yes	No	Yes	Yes
12	com.spotify.music	Free	Spotify Music	Yes	Yes	No	Yes
13	com.adobe.reader	Free	Adobe Acrobat Reader	Yes	Yes	No	Yes
14	com.sirma.mobile.bible.android	Free	Bible	Yes	Yes	No	Yes
15	com.mobilityware.solitaire	Free	Solitaire	Yes	No	No	Yes
16	com.zynga.words	Free	Words With Friends Classic	Yes	Yes	Yes	Yes
17	com.jb.gosms	Free	GO SMS Pro	Yes	No	No	N/A
18	com.picsart.studio	Free	PicsArt Photo Studio	Yes	No	No	No
19	com.oovoo	Free	ooVoo Video Call, Text & Voice	Yes	No	No	Yes
20	tunein.player	Free	TuneIn Radio - Radio & Music	Yes	Yes	No	Yes
21	com.amazon.mShop.android	Free	Amazon	Yes	Yes	No	Yes
22	com.umonistudio.tile	Free	Dont Tap The White Tile	Yes	No	Yes	No
23	com.roidapp.photogrid	Free	Photo Grid - Collage Maker	Yes	No	No	No
24	co.vine.android	Free	Vine - video entertainment	Yes	No	No	Yes
25	com.king.farmheroessaga	Free	Farm Heroes Saga	No	Yes	Yes	No
26	com.etermax.preguntados.lite	Free	Trivia Crack	Yes	No	Yes	No
27	com.lookout	Free	Lookout Security & Antivirus	No	No	No	Yes
28	goldenshoretechnologies.brightestflashlight.free	Free	Brightest Flashlight Free ®	Yes	No	No	N/A
29	com.devuni.flashligh	Free	Tiny Flashlight + LED	Yes	No	No	Yes
30	com.miniclip.eightballpool	Free	8 Ball Pool	Yes	Yes	Yes	No
31	com.adobe.air	Free	Adobe AIR	No	Yes	No	N/A
32	com.rechild.advancedtaskkiller	Free	Advanced Task Killer	Yes	No	No	N/A
33	com.glu.deerhunt2	Free	DEER HUNTER 2014	Yes	No	Yes	Yes
34	com.qihoo.security	Free	360 Security - Antivirus Boost	No	Yes	No	N/A
35	com.amazon.kindle	Free	Amazon Kindle	Yes	Yes	No	Yes
36	com.amazon.mShop.android.shopping	Free	Amazon Shopping	Yes	Yes	No	Yes
37	com.cleanmaster.security	Free	CM Security Antivirus AppLock	No	No	No	N/A
38	com.yodo1.crossyroad	Free	Crossy Road	Yes	No	Yes	Yes
39	com.groupon	Free	Groupon - Shop Deals & Coupons	Yes	Yes	No	Yes
40	com.spotify.mobile.android.ui	Free	Spotify	Yes	Yes	No	Yes
41	com.hulu.plus	Free	Hulu	Yes	Yes	No	Yes
42	com.google.zxing.client.android	Free	Barcode Scanner	Yes	No	No	N/A
43	com.duduapps.craigslistfree	Free	CityShop - for Craigslist	Yes	No	No	Yes
44	com.antivirus	Free	AntiVirus FREE - Security Scan	Yes	Yes	No	N/A
45	com.machinezone.gow	Free	Game of War - Fire Age	No	No	Yes	Yes
46	jp.naver.line.android	Free	LINE: Free Calls & Messages	Yes	No	No	Yes
47	com.chase.sig.android	Free	Chase Mobile	No	Yes	No	Yes
48	com.gogii.textplus	Free	textPlus Free Text + Calls	Yes	No	No	Yes
49	com.contextlogic.wish	Free	Wish - Shopping Made Fun	Yes	No	No	Yes
50	net.flixster.android	Free	Movies by Flixster	Yes	Yes	No	Yes
51	me.pou.app	Free	Pou	No	No	Yes	No
52	com.dotgears.flappybird	Free	Flappy Bird	Yes	No	No	Yes
53	com.socialmobile.dictapps.notepad.color.note	Free	ColorNote Notepad Notes	Yes	No	No	N/A
54	com.walmart.android	Free	Walmart	No	Yes	No	Yes
55	com.melimots.WordSearch	Free	Word Search	Yes	No	Yes	N/A
56	com.infonow.bofa	Free	Bank of America	No	Yes	No	Yes
57	com.ea.game.tetris2011_na	Free	TETRIS®	Yes	Yes	Yes	Yes
58	com.gau.go.launcherex	Free	GO Launcher-Theme, Wallpaper	Yes	No	No	N/A
59	com.cheerfulinc.flipagram	Free	Flipagram	Yes	No	No	Yes
60	de.lotum.whatsinthefoto.us	Free	4 Pics 1 Word	Yes	No	Yes	Yes
61	com.adobe.flashplayer	Free	Adobe Flash Player 11	No	Yes	No	N/A
62	com.mobilemotion.dubsmash	Free	Dubsmash	Yes	No	No	No
63	com.game.JewelsStar	Free	Jewels Star	Yes	No	Yes	N/A
64	com.klncity1.emojikeyboard	Free	Emoji Keyboard	Yes	No	No	N/A
65	com.emoji.coolkeyboard	Free	Emoji Keyboard Pro Kika Free	Yes	No	No	N/A
66	com.kathleenOswald.solitaireGooglePlay	Free	Solitaire	Yes	No	No	Yes
67	com.dianxinos.dxbx	Free	DU Battery Saver&Phone Charger	Yes	No	No	N/A
68	com.ubercab	Free	Uber	Yes	No	No	Yes
69	com.govt.nflgamecenter.us.lite	Free	NFL Mobile	Yes	Yes	No	Yes
70	com.sgn.pandapop.gp	Free	Panda Pop	Yes	No	Yes	Yes

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
71	air.com.sgn.cookiejam.gp	Free	Cookie Jam	No	No	Yes	Yes
72	com.jb.emoji.gokeyboard	Free	GO Keyboard - Emoji, Sticker	No	No	No	N/A
73	com.dictionary	Free	Dictionary.com	Yes	Yes	No	Yes
74	com.robtopx.geometryjumlite	Free	Geometry Dash Lite	Yes	No	Yes	Yes
75	com.glidetalk.glideapp	Free	Glide - Video Chat Messenger	Yes	No	No	Yes
76	com.zynga.wwf2.free	Free	Words With Friends	Yes	Yes	Yes	Yes
77	com.shootbubble.bubbledexlue	Free	Shoot Bubble Deluxe	Yes	No	Yes	N/A
78	com.ijinshan.kbatterydoctor	Free	Battery Doctor (Battery Saver)	Yes	No	No	No
79	com.yelp.android	Free	Yelp	Yes	Yes	No	Yes
80	com.herman.ringtone	Free	Ringtone Maker	Yes	No	No	N/A
81	com.jb.gosms.emoji	Free	GO SMS Pro Emoji Plugin	Yes	No	No	N/A
82	com.kakapo.freelots	Free	Slots Fever - Free Slots	Yes	No	Yes	N/A
83	com.slacker.radio	Free	Slacker Radio	Yes	Yes	No	Yes
84	com.waze	Free	Waze - GPS, Maps & Traffic	Yes	No	No	Yes
85	com.hotheadgames.google.free.rawsnipe	Free	Kill Shot	Yes	No	Yes	No
86	com.topfreegames.bikeracefreeworld	Free	Bike Race Free - Top Free Game	Yes	No	Yes	Yes
87	com.nordcurrent.canteenhd	Free	Cooking Fever	Yes	No	Yes	Yes
88	com.qisiesmoji.inputmethod	Free	Kika Emoji Keyboard - GIF Free	Yes	No	No	N/A
89	com.prettysimple.criminalcaseandroic	Free	Criminal Case	Yes	No	Yes	Yes
90	org.zwanoo.android.speedtest	Free	Speedtest.net	Yes	Yes	No	Yes
91	com.outfit7.mytalkingangelaafre	Free	My Talking Angela	Yes	No	Yes	No
92	com.threed.bowling	Free	3D Bowling	Yes	No	Yes	N/A
93	com.miniclip.agar.io	Free	Agar.io	Yes	Yes	Yes	No
94	com.ciegames.RacingRivals	Free	Racing Rivals	Yes	No	Yes	Yes
95	com.instagram.layout	Free	Layout from Instagram: Collage	No	No	No	Yes
96	com.jb.gokeyboard	Free	GO Keyboard Lite + Emoji	Yes	No	No	N/A
97	com.playstudios.myvegas	Free	myVEGAS Slots Free Casino	No	No	Yes	No
98	com.tinder	Free	Tinder	Yes	Yes	No	Yes
99	com.cmplay.tiles2	Free	Piano Tiles 2 (Dont Tap...2)	Yes	No	Yes	No
100	com.igg.clashoflords2	Free	Clash of Lords 2: Heroes War	Yes	No	Yes	No
101	com.randomlogicgames.guesstheemoj	Free	Guess The Emoji	Yes	No	Yes	No
102	com.sec.android.easyMover	Free	Samsung Smart Switch Mobile	No	Yes	No	N/A
103	com.fivestargames.slots	Free	Slots Free - Big Win Casino™	Yes	No	Yes	N/A
104	com.beatsmusic.android.client	Free	Beats Music	No	Yes	No	No
105	logos.quiz.companies.game	Free	Logo Quiz	Yes	No	Yes	No
106	com.bubblegalaxy.bubble4	Free	Bubble Shooter Galaxy	Yes	No	Yes	N/A
107	com.selfawaregames.acecasino	Free	Big Fish Casino - Free SLOTS	Yes	No	Yes	No
108	com.offerup	Free	OfferUp - Buy. Sell. Offer Up	No	No	No	Yes
109	org.mozilla.firefox	Free	Firefox Browser for Android	No	Yes	No	No
110	com.mediocre.smashhit	Free	Smash Hit	No	No	Yes	No
111	com.amazon.mp3	Free	Amazon Music with Prime Music	Yes	Yes	No	No
112	net.lucky.star.mrtm	Free	MP3 Ringtone Maker	Yes	No	No	N/A
113	com.igg.bzbee.slotsdeluxe	Free	Slot Machines by IGG	Yes	No	Yes	No
114	com.cnn.mobile.android.phone	Free	CNN Breaking US & World News	Yes	Yes	No	Yes
115	com.wf.wellsfargomobile	Free	Wells Fargo Mobile	Yes	Yes	No	Yes
116	flipboard.app	Free	Flipboard: Your News Magazine	Yes	No	No	Yes
117	com.supercell.boombach	Free	Boom Beach	No	No	Yes	Yes
118	com.natenai.glowhockey	Free	Glow Hockey	Yes	No	Yes	Yes
119	com.hcg.cok.gp	Free	Clash of Kings	No	No	Yes	No
120	com.rkgames.smashywanted	Free	Smashy Road: Wanted	Yes	No	Yes	Yes
121	com.ludia.familyfeudandfriends.fre	Free	Family Feud® & Friends	No	No	Yes	Yes
122	com.midasplayer.apps.diamonddiggersaga	Free	Diamond Digger Saga	No	Yes	Yes	No
123	com.zhiliaapp.musically	Free	musical.ly	No	No	No	Yes
124	com.dianxinos.optimizer.duplay	Free	DU Speed Booster & Antivirus	No	No	No	N/A
125	com.kiwi.westbound	Free	Westbound: Pioneer Adventure	No	No	Yes	N/A
126	com.feelingtouch.gunzombie	Free	Zombie Frontier	Yes	No	Yes	N/A
127	com.samsung.swift.app.kiesair	Free	Kies Air	No	Yes	No	N/A
128	com.aa.generaladaptiveapps	Free	aa	No	No	Yes	Yes
129	com.kakapo.bingo	Free	Bingo Fever - Free Bingo Game	Yes	No	Yes	N/A
130	com.kfactormedia.mycalendarmobil	Free	MyCalendar	Yes	No	No	Yes
131	com.myfitnesspal.android	Free	Calorie Counter - MyFitnessPal	Yes	No	No	Yes
132	com.ketchapp.zigzaggame	Free	ZigZag	Yes	No	Yes	No
133	com.skgames.trafficracer	Free	Traffic Racer	Yes	No	Yes	Yes
134	com.igg.pokerdeluxe	Free	Texas HoldEm Poker Deluxe	Yes	No	Yes	Yes
135	com.droidhen.game.poker	Free	DH Texas Poker - Texas Holdem	Yes	No	Yes	No
136	com.estoty.game2048	Free	2048 Number puzzle game	Yes	No	Yes	N/A
137	com.game.BubbleShoot	Free	Bubble Shoot	Yes	No	No	N/A
138	com.hola.launcher	Free	Hola Launcher-Simple, Fast	No	No	No	N/A
139	com.whaleshark.retailmenot	Free	RetailMeNot Coupons, Discounts	Yes	Yes	No	Yes
140	com.zynga.scramble	Free	Word Streak With Friends Free	Yes	Yes	No	No
141	com.scottgames.fnaf2demo	Free	Five Nights at Freddy's 2 Demo	No	No	Yes	No
142	com.microsoft.office.outlook	Free	Microsoft Outlook	Yes	Yes	No	No
143	jp.gree.warofnationsbeta	Free	War of Nations: PvP Domination	No	Yes	Yes	Yes
144	com.king.alphabettysaga	Free	AlphaBetty Saga	No	Yes	Yes	No
145	gbis.gbandroid	Free	GasBuddy - Find Cheap Gas	Yes	Yes	No	Yes

No.	Package Name	App Type	App Name	App Has Microsoft Counterpart	Corporate App	Non-Java Gaming App	App First Launched on iOS
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
146	com.gameloft.android.ANMP.GloftSIHM	Free	Spider-Man Unlimited	Yes	No	Yes	No
147	com.tinyco.familyguy	Free	Family Guy The Quest for Stuff	Yes	No	Yes	No
148	com.droidhen.fortconquer	Free	Fort Conquer	No	No	Yes	No
149	jp.gree.jackpot	Free	Jackpot Slots	Yes	No	Yes	Yes
150	com.zynga.gswf	Free	What's the Phrase Free	Yes	Yes	Yes	Yes
151	com.mxtch.videoplayer.ad	Free	MX Player	Yes	Yes	No	N/A
152	com.explorationbase.ExplorationLite	Free	Exploration Lite	Yes	No	Yes	Yes
153	com.igg.bzbee.deckheroes	Free	Deck Heroes: Legacy	Yes	No	Yes	N/A
154	air.com.playtika.slotomania	Free	Slotomania - Free Casino Slots	Yes	No	Yes	Yes
155	com.com2us.smon.normal.freefull.google.kr.android.common	Free	Summoners War	No	No	Yes	No
156	com.aws.android	Free	WeatherBug	Yes	Yes	No	Yes
157	com.glu.deerhunt16	Free	DEER HUNTER 2016	Yes	No	Yes	Yes
158	com.usablenet.mobile.walgreen	Free	Walgreens	Yes	Yes	No	Yes
159	com.dataviz.docstogo	Free	Docs To Go™ Free Office Suite	No	No	No	Yes
160	com.glu.stardomkim	Free	KIM KARDASHIAN: HOLLYWOOD	No	No	Yes	No
161	com.mcdonalds.app	Free	McDonalds	Yes	Yes	No	No
162	com.spacegame.forestmania	Free	Forest Mania™	No	No	Yes	Yes
163	com.emoji.Smart.Keyboard	Free	Emoji Smart Android Keyboard	Yes	No	No	N/A
164	com.turbochilli.unrollme	Free	Unroll Me™ - unblock the slots	Yes	No	Yes	No
165	com.king.blossomblast	Free	Blossom Blast Saga	No	Yes	Yes	Yes
166	codeadore.textgram	Free	Textgram - write on photos	Yes	No	No	N/A
167	com.kabam.marvelbattle	Free	MARVEL Contest of Champions	No	Yes	Yes	No
168	com.disney.disneymoviesanywhere.goc	Free	Disney Movies Anywhere	No	Yes	No	Yes
169	com.zynga.looney	Free	Looney Tunes Dash!	No	Yes	Yes	No
170	com.pinkpointer.wordsearch	Free	Word Search	Yes	No	Yes	N/A
171	com.intellectualflame.ledflashlight.washe	Free	Brightest LED Flashlight	Yes	No	No	Yes
172	com.easy.battery.saver	Free	Easy Battery Saver	Yes	No	No	N/A
173	com.gamecircus.prizeclaw2	Free	Prize Claw 2	Yes	No	Yes	N/A
174	com.yahoo.mobile.client.android.fantasyfootball	Free	Yahoo Fantasy Sports	No	Yes	No	Yes
175	com.imdb.mobile	Free	IMDb Movies & TV	Yes	Yes	No	Yes
176	com.sq.dragonsworld	Free	Dragons World	No	No	Yes	No
177	com.bestcoolfungames.antsmasher	Free	Ant Smasher, Best Free Game	Yes	No	Yes	No
178	com.imo.android.imoir	Free	imo free video calls and chat	Yes	No	No	Yes
179	com.prgames.texasoldem.livepoker	Free	Texas Holdem - Live Poker	Yes	No	Yes	N/A
180	com.mapfactor.navigator	Free	MapFactor GPS Navigation Maps	Yes	No	No	N/A
181	com.scopely.headshot	Free	Walking Dead: Road to Survival	No	No	Yes	Yes
182	com.wallapop	Free	Wallapop - Buy & Sell Nearby	No	No	No	No
183	com.tobiapps.android.100floors	Free	100 Floors™ - Can You Escape?	Yes	No	Yes	Yes
184	com.fandango	Free	Fandango Movies	Yes	Yes	No	Yes
185	com.zentertain.photoeditor	Free	Photo Editor Pro	Yes	No	No	Yes
186	air.com.bitrhymes.bingc	Free	Bingo Bash	Yes	Yes	Yes	Yes
187	com.leo.appmaster	Free	LEO Privacy Guard - Lock&Boost	Yes	No	No	N/A
188	com.kakapo.worldbingo	Free	Bingo Fever - World Trip	Yes	No	Yes	N/A
189	com.espn.fantasy.lm.football	Free	ESPN Fantasy Football	Yes	Yes	No	Yes
190	com.disney.thoughtbubbles.goc	Free	Inside Out Thought Bubbles	Yes	Yes	Yes	Yes
191	com.wb.goog.mkx	Free	MORTAL KOMBAT X	Yes	Yes	Yes	Yes
192	com.yahoo.mobile.client.android.irmessenger	Free	Yahoo Messenger	Yes	Yes	No	N/A
193	com.freaxator.game100balls	Free	100 Ballz	Yes	No	Yes	N/A
194	com.crimsonpine.stayinline	Free	Follow The Line	Yes	No	Yes	N/A
195	com.smule.singandroidic	Free	Sing! Karaoke by Smule	No	No	No	Yes
196	com.aim.racing	Free	Extreme Car Driving Simulator	Yes	No	Yes	No
197	com.telenav.app.android.scout.us	Free	Scout GPS Navigation & Meet Up	No	Yes	No	Yes
198	com.scopely.slotsvacation	Free	Slots Vacation - FREE Slots	Yes	No	Yes	N/A
199	com.cyberlink.youcammakeup	Free	YouCam Makeup- Makeover Studio	Yes	No	No	No
200	com.epicwaronline.ms	Free	Mobile Strike	No	No	Yes	No
201	com.droidhen.defender2	Free	Defender II	Yes	No	Yes	No
202	com.playtika.wsop.gp	Free	World Series of Poker – WSOP	Yes	No	Yes	No
203	com.accuweather.android	Free	AccuWeather	Yes	Yes	No	Yes
204	com.zynga.hanging	Free	Hanging With Friends	No	Yes	No	Yes
205	com.SpaceInch.LoveOfMoney	Free	Make It Rain: Love of Money	Yes	No	Yes	Yes
206	com.scottgames.fnaf3demo	Free	Five Nights at Freddy's 3 Demo	No	No	Yes	No
207	com.feelingtouch.zombies	Free	Zombie Frontier 2: Survival	Yes	No	Yes	N/A
208	com.zillow.android.zillowmap	Free	Zillow Real Estate & Rentals	No	Yes	No	Yes
209	com.uken.BingoPop	Free	Bingo Pop	Yes	No	Yes	Yes
210	com.fungamesforfree.snipershooter.free	Free	Sniper Shooter Free - Fun Game	Yes	No	Yes	Yes
211	com.miniclip.dudeperfect	Free	Dude Perfect 2	Yes	Yes	Yes	Yes
212	com.droidhen.basketball	Free	Basketball Shot	Yes	No	Yes	N/A
213	com.gamecircus.Paplinkc	Free	Paplinko	No	No	Yes	N/A
214	gov.irs	Free	IRS2Go	No	Yes	No	Yes
215	com.teamlava.bubble	Free	Bubble Mania™	Yes	No	No	Yes
216	com.iugome.dawn	Free	Criminal Legacy	No	Yes	Yes	N/A
217	com.gamecircus.PrizeClaw	Free	Prize Claw	Yes	No	Yes	Yes
218	com.tp.android.surgerysim	Free	Surgery Simulator	No	No	Yes	No
219	com.microsoft.office.word	Free	Microsoft Word	Yes	Yes	No	Yes

No.	Package Name	App Type	App Name	App Has Microsoft Counterpart	Corporate App	Non-Java Gaming App	App First Launched on iOS
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
220	com.lima.doodlejump	Free	Doodle Jump	Yes	No	No	Yes
221	com.badoo.mobile	Free	Badoo - Meet New People	Yes	No	No	Yes
222	com.ketchapp.jellyjump	Free	Jelly Jump	Yes	No	Yes	Yes
223	com.iugome.lilknight	Free	Knights & Dragons - Action RPG	No	Yes	Yes	No
224	com.goldenlion.slots	Free	Golden Lion Slots™-Free Casino	Yes	No	Yes	N/A
225	com.bethsoft.falloutshelter	Free	Fallout Shelter	No	Yes	Yes	Yes
226	com.hz.game.cd	Free	Castle Defense	Yes	No	Yes	N/A
227	se.feomedia.pixduel.us.lite	Free	Pixduel™	No	No	Yes	No
228	air.com.officemax.magicmirror.ElifYourSel	Free	Elf Yourself by Office Depot	No	No	No	Yes
229	com.gau.go.launcherex.gowidget.weatherwidget	Free	GO Weather Forecast & Widgets	Yes	No	No	N/A
230	com.ludia.jurassicworld	Free	Jurassic World™: The Game	No	No	Yes	Yes
231	com.randomlogicgames.guessthe90s	Free	Guess The 90s	No	No	Yes	No
232	com.igg.bravetrials	Free	Brave Trials	No	No	Yes	N/A
233	com.withbuddies.dice.free	Free	Dice With Buddies™ Free	No	No	Yes	Yes
234	com.nekki.vector	Free	Vector	No	No	Yes	Yes
235	com.gamesforfriends.trueorfalse	Free	True or False - Test Your Wits	Yes	No	Yes	Yes
236	com.fungamestudio.bingoandroid	Free	Bingo Crush - Free Bingo Game	Yes	No	Yes	N/A
237	com.gipnetix.stages	Free	100 Doors 2013	Yes	No	Yes	No
238	com.industrymagic.followme	Free	Follow ME Free	Yes	No	No	N/A
239	air.com.puffballsunited.escapingthepriisor	Free	Escaping the Prison	No	No	Yes	Yes
240	com.igg.android.godsrush_en	Free	Gods Rush	No	No	Yes	N/A
241	com.magmamobile.game.Burger	Free	Burger	Yes	No	Yes	No
242	se.maginteractive.wordbrain	Free	WordBrain	Yes	No	Yes	Yes
243	air.com.slotgalaxy	Free	Slot Galaxy - HD Slot Machines	Yes	No	Yes	No
244	com.scannerradio	Free	Scanner Radio	Yes	No	No	N/A
245	com.july.univisor	Free	Univision Deportes	No	Yes	No	Yes
246	com.bingocrushgame.bingovegas	Free	Bingo - Pro Bingo Crush™	Yes	No	Yes	N/A
247	com.fingerdance.empire	Free	Legend of Empire - Daybreak	No	No	Yes	No
248	com.withbuddies.yahtzee	Free	YAHTZEE® With Buddies	No	No	Yes	No
249	com.rdio.android.ui	Free	Rdio Music	No	Yes	No	Yes
250	com.igg.android.clashofgangs_en	Free	Clash of Gangs	No	No	Yes	N/A
251	com.hotheadgames.google.free.bigwinfootball	Free	BIG WIN Football	No	No	Yes	No
252	com.pacificinteractive.HouseOfFur	Free	Slots Free Casino House of Fun	Yes	No	Yes	Yes
253	com.samsung.mdl.radic	Free	Samsung Milk Music	No	Yes	No	N/A
254	air.e2applets.ironpants	Free	Ironpants	No	No	Yes	No
255	com.discovercircle10	Free	Circle - Events, Concerts More	No	No	No	Yes
256	com.gamevil.monster.globa	Free	Monster Warlord	Yes	No	Yes	N/A
257	com.spacegame.dessert	Free	Yummy Mania™	No	No	Yes	N/A
258	air.com.sgn.juicejam.gr	Free	Juice Jam	No	No	Yes	Yes
259	com.ketchapp.stickhero	Free	Stick Hero	Yes	No	Yes	No
260	com.sm.popTheLock	Free	Pop the Lock	No	No	Yes	Yes
261	com.amdroid.pedo.gas.flatulencia	Free	Fart sound	Yes	No	Yes	N/A
262	com.facebook.moments	Free	Moments	No	Yes	No	No
263	com.feelingtouch.dipan.slgamegloba	Free	Empire:Rome Rising	No	No	Yes	N/A
264	com.ea.game.simcitymobile_row	Free	SimCity BuildIt	No	Yes	Yes	No
265	com.kakapo.slotspro	Free	Slots Fever Pro - Free Slots	Yes	No	Yes	N/A
266	pl.ayground.coloringbook	Free	Coloring Book	Yes	No	No	N/A
267	com.com2us.acefishing.normal.freefull.google.glob	Free	Ace Fishing: Wild Catch	Yes	No	Yes	No
268	al.android.common						
269	com.netmarble.mherosgt	Free	MARVEL Future Fight	Yes	No	Yes	No
270	com.activision.callofduty.heroes	Free	Call of Duty®: Heroes	No	Yes	Yes	Yes
271	com.game.BubbleShooter	Free	Bubble Shooter	Yes	No	Yes	N/A
272	com.gameloft.android.ANMP.GloftCAHM	Free	Cars: Fast as Lightning	Yes	No	Yes	No
273	com.quizup.core	Free	QuizUp	Yes	No	Yes	Yes
274	jp.kino.whiteLine	Free	Dont step the white tile	Yes	No	Yes	No
275	com.google.android.stardroid	Free	Sky Map	Yes	No	No	No
276	com.ksmobile.launcher	Free	CM Launcher-Speedy,Small,Safe	No	No	No	N/A
277	com.musicplayer.music	Free	Default Music Player	Yes	No	No	N/A
278	com.hapogames.BubbleParadise	Free	Bubble Worlds	Yes	No	Yes	N/A
279	com.frostwire.android	Free	FrostWire - Torrent Downloader	Yes	No	No	N/A
280	com.glu.dino	Free	DINO HUNTER: DEADLY SHORES	Yes	No	Yes	No
281	com.myxer.android	Free	Myxer	Yes	No	No	No
282	com.tap4fun.galaxyempire2_android	Free	Galaxy Legend	No	No	Yes	No
283	com.mobage.www.a953.Fuzion_Android	Free	HellFire: The Summoning	No	No	Yes	No
284	it.junglestudios.splashyfish	Free	Splashy Fish™	No	No	Yes	Yes
285	com.kiwi.shipwrecked	Free	Shipwrecked: Lost Island	No	No	Yes	No
286	com.fdgentertainment.bananakong	Free	Banana Kong	Yes	No	Yes	Yes
287	com.spacegame.solitaire	Free	Solitaire!!	Yes	No	No	N/A
288	com.torch.lampe.flashlight	Free	Flashlight & LED Torch	Yes	No	No	N/A
289	com.ddi	Free	DoubleDown Casino - FREE Slots	Yes	No	Yes	Yes
290	com.namcobandaigames.pacmantournaments	Free	PAC-MAN	No	Yes	Yes	N/A
291	com.zinio.mobile.android.reader	Free	Zinio: 5000+ Digital Magazines	No	No	No	Yes
292	com.handcent.nextsms	Free	Handcent SMS	Yes	No	No	N/A
293	com.ecg.close5	Free	Close5: Buy & Sell Locally	Yes	No	No	Yes
294	com.wooga.agentalice	Free	Agent Alice	No	No	Yes	No



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
294	com.vanke.droidring	Free	Top Ringtone Downloader	Yes	No	No	N/A
295	com.miantan.myoface	Free	FaceQ	Yes	No	No	No
296	com.droidhen.irunner	Free	iRunner	Yes	No	Yes	N/A
297	com.g6677.android.phairsalon	Free	Hair Salon - Kids Games	Yes	No	Yes	Yes
298	com.abtnprojects.ambatana	Free	letgo: Buy & Sell Used Stuff	Yes	No	No	No
299	com.idlegames.eldorado	Free	Fresh Deck Poker - Live Holdem	Yes	No	Yes	Yes
300	com.funplus.familyfarm	Free	Family Farm Seaside	Yes	No	Yes	Yes
301	com.playfirst.playground.dinerdashspongebot	Free	SpongeBob Diner Dash	No	No	Yes	Yes
302	com.creativemobile.dr4x4	Free	Drag Racing 4x4	Yes	No	Yes	N/A
303	com.kabam.ff6android	Free	Fast & Furious 6: The Game	Yes	Yes	Yes	Yes
304	ata.squid.pimd	Free	Party in my Dorm	No	No	Yes	Yes
305	com.ea.game.starwarscapital_row	Free	Star Wars™: Galaxy of Heroes	Yes	Yes	Yes	No
306	com.stylem.wallpapers	Free	Backgrounds HD Wallpapers	Yes	No	No	N/A
307	air.com.ubisoft.csi.HiddenCrimes	Free	CSI: Hidden Crimes	Yes	Yes	Yes	No
308	com.bingocrushgame.bingc	Free	Bingo Crush - Fun Bingo Game™	Yes	No	Yes	N/A
309	com.playstudios.myvegas.blackjack	Free	Blackjack - myVEGAS 21 Free	Yes	No	Yes	N/A
310	com.gamevil.cartoonwars.one.global	Free	Cartoon Wars	No	No	Yes	N/A
311	com.theonegames.gunshipbattle	Free	GUNSHIP BATTLE : Helicopter 3D	Yes	No	Yes	No
312	com.scopely.minigolf.free	Free	Mini Golf MatchUp™	No	No	Yes	No
313	air.com.generamobile.colormaniaguess	Free	Colormania - Color the Logo	No	No	Yes	Yes
314	com.droidhen.shootapple	Free	Shoot the Apple	No	No	Yes	N/A
315	com.scottgames.fnaf4demo	Free	Five Nights at Freddy's 4 Demo	No	No	Yes	No
316	com.g6677.android.ltdoctor	Free	Little Throat Doctor	Yes	No	Yes	No
317	com.gamevil.darknessreborn2.android.google.glob al.normal	Free	Darkness Reborn	No	No	Yes	No
318	com.hothheadgames.google.free.ks2	Free	Kill Shot Bravo	Yes	No	Yes	Yes
319	com.alegrum.billionaire	Free	Billionaire.	No	No	Yes	Yes
320	com.gamelion.cleopatra	Free	Slots™ Free Slot Machines	Yes	No	Yes	N/A
321	com.disney.MonstersUniversityFree.goc	Free	Monsters U: Catch Archie	No	Yes	Yes	Yes
322	com.arbstudios.tikikartfree	Free	Tiki Kart 3D	No	No	Yes	Yes
323	com.hbo.hbonow	Free	HBO NOW	No	Yes	No	Yes
324	com.cec.skateuniverse	Free	Chuck E.s Skate Universe	No	Yes	Yes	No
325	com.tap4fun.kings_empire	Free	Kings Empire	No	No	Yes	Yes
326	com.gotv.crackle.handset	Free	Crackle - Movies & TV	Yes	Yes	No	Yes
327	com.cootek.smartinputv5	Free	TouchPal - Cute Emoji Keyboard	No	No	No	No
328	ru.mail.games.android.JungleHeat	Free	Jungle Heat: Weapon of Revenge	Yes	No	Yes	No
329	com.ea.gp.minions	Free	Minions Paradise™	No	Yes	Yes	No
330	com.prgames.livepoker.texasoldem2	Free	Texas Holdem - Live Poker 2	Yes	No	Yes	No
331	com.classdojo.android	Free	ClassDojo	No	No	No	Yes
332	com.kfactormedia.mycalendar	Free	MyCalendar Beta	Yes	No	No	No
333	com.playtika.caesarscasino	Free	Casino - Caesars Slots Free	Yes	No	Yes	Yes
334	com.happyhour.cointrip	Free	Coin Trip - Free Pusher Game	Yes	No	Yes	N/A
335	jp.gocro.smartnews.android	Free	SmartNews	No	No	No	Yes
336	com.igg.bzbee.bingobyigg	Free	Bingo by IGG: Top Bingo+Slots!	Yes	No	Yes	N/A
337	com.gamevil.mlbpi.ad.google.wv	Free	MLB Perfect Inning	No	No	Yes	No
338	com.sergiobarbara.nightvision.camera	Free	Night Vision Spy Camera	Yes	No	Yes	N/A
339	jp.gree.jband	Free	Jackpot Bingo -Free Bingo Game	Yes	Yes	Yes	N/A
340	com.g6677.android.ledoctor	Free	Little Ear Doctor	Yes	No	Yes	No
341	com.gamevil.kritikamobile.android.google.global.n ormal	Free	Kritika: The White Knights	No	No	Yes	No
342	tv.twitch.android.app	Free	Twitch	No	Yes	No	N/A
343	com.kakapo.valentinebingo	Free	Bingo Fever-Valentines Day	Yes	No	Yes	N/A
344	de.lotum.whatsinthefoto.en	Free	4 Pics 1 Word	Yes	No	No	No
345	com.pixelberrystudios.hssandroid	Free	High School Story	No	No	Yes	Yes
346	com.yellowpages.android.ypmobile	Free	YP - Yellow Pages local search	Yes	Yes	No	Yes
347	com.enflick.android.TextNow	Free	TextNow - free text + calls	Yes	No	No	No
348	com.mobage.wv.a1933.Super_Battle_Tactics_An droid	Free	Super Battle Tactics	No	No	Yes	N/A
349	com.scopely.skeeball	Free	Skee-Ball Arcade	Yes	No	Yes	N/A
350	com.headgraphix.bruh	Free	Bruh Button	No	No	Yes	Yes
351	com.pennypop.monsters.live	Free	Battle Camp	Yes	No	Yes	Yes
352	com.gamecircus.CoinDozerPirates	Free	Coin Dozer: Pirates	Yes	No	Yes	N/A
353	com.rushmo.casinofrenzy	Free	Casino Frenzy - Free Slots	Yes	No	Yes	No
354	com.bayview.tapfish	Free	Tap Fish	Yes	No	No	N/A
355	com.tottygames.flippywheels	Free	Flippy Wheels	No	No	Yes	No
356	com.bfs.papertoss	Free	Paper Toss	Yes	No	Yes	N/A
357	com.emojiifamily.emoji.keyboard.font.twitteremoj	Free	Emoji Keyboard Cute & Colorful	Yes	No	No	N/A
358	com.yahoo.mobile.client.android.yahoc	Free	Yahoo - News, Sports & More	No	Yes	No	Yes
359	com.prgames.texasoldem.goldenpoker	Free	Texas Holdem - Golden Poker	Yes	No	Yes	N/A
360	com.gipnetix.doorsrevenge	Free	100 Doors of Revenge	Yes	No	Yes	No
361	com.dragonplay.slotcity	Free	Slots 777 Casino by Dragonplay	Yes	No	Yes	No
362	com.droidappsolutions.fingerprintsanner	Free	Fingerprint Scanner Lock	Yes	No	No	N/A
363	com.mobage.wv.a5225.tf2_Android	Free	TRANSFORMERS AGE OF EXTINCTION	No	No	Yes	No
364	eu.bandainamcoent.pacman256	Free	PAC-MAN 256 - Endless Maze	No	Yes	Yes	No



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
365	com.ludia.waldo3free	Free	Waldo & Friends	No	No	Yes	No
366	com.king.paradisebay	Free	Paradise Bay	No	Yes	Yes	Yes
367	com.kitkatandroid.keyboard	Free	Emoji Keyboard - KK Emoticons	Yes	No	No	N/A
368	com.fdgentertainment.paperama	Free	Paperama	Yes	No	Yes	No
369	com.espn.espnfantasyfootball	Free	ESPN Fantasy Football	Yes	Yes	No	No
370	com.twelvegigs.heaven.bingc	Free	BINGO!	Yes	No	Yes	No
371	com.igg.android.im	Free	LINK - with people nearby	No	No	No	N/A
372	com.innovativeGames.archery	Free	Archery	Yes	No	Yes	N/A
373	mobi.mgeek.TunnyBrowser	Free	Dolphin - Best Web Browser	Yes	No	No	N/A
374	com.bethsoft.falloutcompanionapp	Free	Fallout Pip-Boy	Yes	Yes	Yes	No
375	com.feelingtouch.strikeforce	Free	Gun & Blood	No	No	Yes	N/A
376	com.wb.headsup	Free	Heads Up!	Yes	Yes	No	Yes
377	com.ScnStudios.RealCityCarDriver3D	Free	Real City Car Driver 3D	Yes	No	Yes	N/A
378	com.weplaydots.twodotsandroid	Free	Two Dots	Yes	No	Yes	Yes
379	com.fingersoft.cartooncamera	Free	Cartoon Camera	Yes	No	No	N/A
380	com.mavenhut.solitaire	Free	Solitaire Arena	Yes	No	Yes	N/A
381	com.redbox.android.activity	Free	Redbox	No	Yes	No	Yes
382	com.gamelion.slots	Free	Casino Games™	Yes	No	Yes	N/A
383	com.fatbatstudio.archery	Free	Archery Tournament	Yes	No	Yes	No
384	com.lego.city.my_city	Free	LEGO® City My City	No	Yes	Yes	Yes
385	com.disney.WMW	Paid	Wheres My Water?	Yes	Yes	Yes	Yes
386	com.alibaba.aliexpresshd	Free	AliExpress Shopping App	Yes	Yes	No	Yes
387	com.zynga.livepoker	Free	Zynga Poker – Texas Holdem	Yes	Yes	Yes	Yes
388	com.fanduel.android.self	Free	FanDuel	No	Yes	No	Yes
389	com.pnixgames.bowlingking	Free	Bowling King	Yes	Yes	Yes	No
390	com.gamevil.spiritstones.global.free	Free	Spirit Stones	No	No	Yes	N/A
391	com.ismaker.android.simsimi	Free	SimSimi	Yes	No	No	Yes
392	com.zynga.FarmVille2CountryEscape	Free	FarmVille 2: Country Escape	Yes	Yes	Yes	No
393	com.ea.tetrisblitz_na	Free	TETRIS® Blitz	Yes	Yes	Yes	No
394	com.twelvegigs.heaven.vpoker	Free	VIDEO POKER!	Yes	No	Yes	No
395	com.feelingtouch.strikeforce2	Free	SWAT	No	No	Yes	N/A
396	com.mobage.www.a1675.FlutterMobile Android	Free	Flutter	No	No	Yes	N/A
397	mindware.mindgames	Free	Mind Games	Yes	No	Yes	No
398	com.sparklingsociety.cityisland2	Free	City Island 2 - Building Story	Yes	No	Yes	No
399	com.magmamobile.game.HiddenObject	Free	Hidden Object	Yes	No	Yes	N/A
400	com.kamagames.pokerist	Free	Texas Poker	Yes	No	Yes	Yes
401	com.xs.findobject	Free	Find Objects	Yes	No	Yes	N/A
402	com.PancakeApps.LieDetector	Free	Lie Detector Polygraph	Yes	No	No	N/A
403	com.veewo.Get10	Free	Just Get 10	Yes	No	Yes	No
404	com.droidhen.shootapple2	Free	Shoot the Apple 2	No	No	Yes	N/A
405	com.fitbit.FitbitMobile	Free	Fitbit	Yes	Yes	No	Yes
406	com.disney.WMPLite	Free	Where's My Perry? Free	Yes	Yes	Yes	Yes
407	com.game.JewelsLegend	Free	Jewels Legend	Yes	No	Yes	N/A
408	com.turner.cnblamburger	Free	Blamburger - Clarence	No	Yes	Yes	No
409	net.jroen.LogoQuiz	Free	Logo Quiz	Yes	No	Yes	No
410	com.gamecircus.moviez	Free	4 Pics 1 Movie!	Yes	No	Yes	No
411	com.g6677.android.babycare	Free	Baby Care & Baby Hospital	No	No	Yes	No
412	com.evernote	Free	Evernote	Yes	Yes	No	Yes
413	com.bandainamcogames.dbzdokkanww	Free	DRAGON BALL Z DOKKAN BATTLE	No	Yes	Yes	No
414	com.bubble.snow2	Free	Bubble Snow	Yes	No	Yes	N/A
415	com.magmamobile.game.Plumber	Free	Plumber	Yes	No	Yes	No
416	com.gameloft.android.ANMP.GloftNFMH	Free	NFL Pro 12	No	No	Yes	Yes
417	com.mediocre.commute	Free	Does not Commute	No	No	Yes	Yes
418	com.playfirst.cookingdashx	Free	COOKING DASH 2016	Yes	No	Yes	Yes
419	com.backflipstudios.android.papertoss2	Free	Paper Toss 2.0	Yes	No	Yes	Yes
420	com.funfactory.photoeditor	Free	Photo Art - Color Effects	Yes	No	No	N/A
421	com.bandagames.bubblebirdsquest	Free	Bubble Shooter Birds	Yes	No	Yes	N/A
422	me.tango.roadriot	Free	Road Riot	Yes	No	Yes	N/A
423	com.ruanshaomin.game	Free	Unblock Car	Yes	No	Yes	N/A
424	com.digeebird.funnymouth	Free	Funny Mouth	Yes	No	No	No
425	com.pgpublish.android.airportscanner	Free	Airport Scanner	No	No	Yes	Yes
426	com.robinson.slotsoz	Free	Slots Oz™ - slot machines	Yes	No	Yes	N/A
427	com.igg.android.finalfable	Free	Final Fable	No	No	Yes	N/A
428	com.ubisoft.dance.JustDance	Free	Just Dance Now	No	Yes	Yes	No
429	com.espn.droid.bracket_bound	Free	ESPN Tournament Challenge	Yes	Yes	No	Yes
430	air.com.buffalo_studios.newflashbingc	Free	BINGO Blitz - FREE Bingo+Slots	Yes	No	Yes	Yes
431	com.hotwar.deal	Free	Who Wants To Be Millionaire	Yes	No	Yes	N/A
432	jp.gree.modernwar	Free	Modern War by GREE	No	Yes	Yes	Yes
433	Game.SpeedMoto	Free	SpeedMoto	Yes	No	Yes	No
434	com.nhntent.SKQUEST	Free	Crusaders Quest	No	No	Yes	No
435	com.play.Jewels3	Free	Jewels 2 FREE	Yes	No	Yes	N/A
436	com.spacegame.solitairepharaoh	Free	Solitaire: Pharaoh	Yes	No	Yes	N/A
437	com.creativemobile.roadsmash	Free	Road Smash: Crazy Racing!	No	No	Yes	N/A
438	com.mobage.www.a1912.Godus Android	Free	Godus	No	No	Yes	Yes
439	com.sparklingsociety.cityisland3	Free	City Island 3 - Building Sim	Yes	No	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
440	com.lygame.pianotiles	Free	Piano Tiles	Yes	No	Yes	N/A
441	com.outfit7.tomslovelettersfree	Free	Toms Love Letters	Yes	No	No	Yes
442	com.crowdstar.covetfashion	Free	Covet Fashion- Gabrielle Union	No	No	Yes	Yes
443	com.outplayentertainment.bubbleblaze	Free	Bubble Blaze	Yes	No	Yes	Yes
444	com.lx.HeroesOfAtlan	Free	Heroes of Atlan	No	No	Yes	No
445	com.joycity.warshipbattle	Free	WARSHIP BATTLE:3D World War II	No	No	Yes	No
446	com.linecorp.LGTMTMG	Free	LINE: Disney Tsum Tsum	No	No	Yes	No
447	com.teslacoilsw.launcher.prime	Paid	Nova Launcher Prime	Yes	No	No	N/A
448	com.soa.sega.soniccdlite	Free	Sonic CD Lite	Yes	Yes	Yes	Yes
449	com.episodeinteractive.android.catalog	Free	Episode + Mean Girls: Sr Year	No	No	Yes	Yes
450	com.outfit7.talkingpierrefree	Free	Talking Pierre the Parrot	Yes	No	No	Yes
451	com.ximad.bubble_birds2_free	Free	Bubble Birds 3	Yes	No	No	N/A
452	mk.g6.crackyourscreen	Free	Crack Your Screen Prank	Yes	No	Yes	N/A
453	com.outfit7.talkingnewsfree	Free	Talking Tom & Ben News	Yes	No	No	Yes
454	com.outfit7.talkingangelafree	Free	Talking Angela	Yes	No	No	Yes
455	com.teamlava.candy	Free	Candy Blast Mania	No	No	Yes	Yes
456	com.titan.fc2014	Free	Reign of Summoners 2014	No	No	Yes	N/A
457	com.etermax.wordcrack.lite	Free	Word Crack Free	No	No	Yes	Yes
458	com.bitmango.rolltheballunrollme	Free	Roll the Ball: slide puzzle	No	No	Yes	No
459	com.feelingtouch.sniperzombie	Free	Zombie Assault: Sniper	No	No	Yes	N/A
460	com.ThumbFly.FastestSms	Free	QuickTouch Text Messaging	Yes	No	No	N/A
461	com.igg.android.galaxyonline2	Free	Galaxy Online 3	No	No	Yes	N/A
462	my.googlemusic.play	Free	My Mixtape Music & Mixtapes	Yes	No	No	Yes
463	com.ea.game.nfs14_row	Free	Need for Speed™ No Limits	Yes	Yes	Yes	Yes
464	com.ludia.familyfeudblitz	Free	Family Feud® 2	No	No	Yes	No
465	com.lionmobi.battery	Free	Power Battery - Battery Saver	Yes	No	No	N/A
466	com.fungames.sniper3d	Free	Sniper 3D Assassin: Free Games	Yes	No	Yes	Yes
467	com.glu.football	Free	TAP SPORTS FOOTBALL	No	No	Yes	Yes
468	com.legend.dragon	Free	Legend of Lords	No	No	Yes	No
469	com.tap4fun.spartanwar	Free	Spartan Wars: Blood and Fire	No	No	Yes	Yes
470	com.outlook.Z7	Free	Outlook.com	Yes	Yes	No	N/A
471	com.fifa.fifaapp.android	Free	FIFA	Yes	Yes	No	No
472	com.rovio.croods	Free	The Croods	No	No	Yes	No
473	com.wargames.gd	Free	Galaxy Defense	Yes	No	Yes	N/A
474	com.ikeyboard.emoji.emojione	Free	Emoji One Kika Keyboard Plugir	Yes	No	No	N/A
475	com.naturalmotion.csrclassics	Free	CSR Classics	Yes	No	Yes	Yes
476	com.g6677.android.lpetvet	Free	Baby Pet Vet Doctor	Yes	No	Yes	No
477	com.gsn.android.tripeaks	Free	Solitaire TriPeaks	Yes	Yes	Yes	No
478	com.kabam.ft7	Free	Fast & Furious: Legacy	Yes	Yes	Yes	No
479	jp.co.translimit.brainwars	Free	Brain Wars	No	No	Yes	Yes
480	com.ea.game.easportsufc_row	Free	EA SPORTS UFC®	No	Yes	Yes	No
481	com.microblink.photomath	Free	PhotoMath	No	No	No	Yes
482	com.quizlogo	Free	Logo Trivial Quiz	Yes	No	Yes	N/A
483	com.rockgamedevelopment.virtualsurgery	Free	Virtual Surgery : Surgery Game	Yes	No	Yes	N/A
484	com.kiwi.volcanoisland	Free	Shipwrecked: Volcano Island	No	No	Yes	N/A
485	com.igg.android.marbleheroes	Free	Marble Heroes	No	No	Yes	N/A
486	com.gameimax.naildoctor	Free	Nail Doctor	Yes	No	Yes	Yes
487	com.nexonm.monstersquad	Free	Monster Squad	No	No	Yes	No
488	com.seamatch.levelviewer	Free	Cookie Crush	Yes	No	No	N/A
489	com.shakespeare.slots.android	Free	SLOTS: Shakespeare Slot Games!	Yes	No	Yes	N/A
490	com.glu.flc2	Free	FRONTLINE COMMANDO 2	No	No	Yes	No
491	com.com2us.golfstarworldtour.normal.freefull.goo	Free	Golf Star™	No	No	Yes	Yes
492	gle.global.android.common						
492	com.igg.android.bloodblade	Free	Blood & Blade	Yes	No	Yes	N/A
493	de.sihidev.Luegendetektor	Free	Lie detector / Polygraph	Yes	No	No	N/A
494	com.obamaslots.slots.android	Free	SLOTS: Obama Slot Machines	Yes	No	Yes	N/A
495	com.venticake.retrica	Free	Retrica	No	No	No	Yes
496	com.scottgames.fivenightsatfreddysdemo	Free	Five Nights at Freddy's- DEMO	No	No	Yes	No
497	com.zz.thumbicing	Free	Tilt Racing	Yes	No	Yes	N/A
498	slots.grandegames.casino.wildwin	Free	Slots Free - Wild Win Casino	Yes	No	Yes	N/A
499	es.socialpoint.MonsterLegends	Free	Monster Legends	No	No	Yes	Yes
500	com.igg.clash_of_lords	Free	Clash of Lords	Yes	No	Yes	N/A
501	com.vegas.slot	Free	Slot Saga - Slot Machines	Yes	No	No	N/A
502	com.igg.android.clashofmafias	Free	Clash of Mafias	No	No	Yes	N/A
503	com.dobsoftstudios.gunfustickman2	Free	Gun Fu: Stickman 2	No	No	Yes	No
504	com.gamevil.partyslots.global	Free	Party Slots - FREE Slots	Yes	No	Yes	N/A
505	com.king.scrubbydubbysaga	Free	Scrubby Dubby Saga	No	Yes	Yes	No
506	com.ucool.hero	Free	Heroes Charge	No	No	Yes	Yes
507	com.dipan.feelingtouch.zwai	Free	Z War	No	No	Yes	N/A
508	cento.n2.lib	Free	The Floor Escape	Yes	No	No	N/A
509	itembox.crayfish.x	Free	Casino X - Free Online Slots	Yes	No	Yes	N/A
510	com.nextradioapp.nextradio	Free	NextRadio - Free Live FM Radio	Yes	No	No	N/A
511	com.g6677.android.lidentist	Free	Little Dentist	Yes	No	No	No
512	com.scimob.wordacademy	Free	Word Academy	Yes	No	Yes	N/A
513	com.miniclip.hambo	Free	Hambo	No	Yes	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
514	com.perblue.greedforglory	Free	Greed for Glory: War Strategy	No	No	Yes	N/A
515	com.blizzard.wtcg.hearthstone	Free	Hearthstone Heroes of Warcraft	No	Yes	Yes	Yes
516	com.nexonm.loh.usios	Free	Legion of Heroes	No	Yes	Yes	Yes
517	com.wishabi.flipp	Free	Flipp - Weekly Ads & Coupons	No	No	No	Yes
518	air.com.differencegames.hohappyhauntsfrees	Free	Hidden Object - Happy Haunts	Yes	No	Yes	N/A
519	com.gamevil.fishing.globa	Free	Fishing Superstars : Season4	No	No	Yes	N/A
520	com.slotsfairytale.slots.android	Free	SLOTS Fairytale: Slot Machines	Yes	No	Yes	N/A
521	com.speedsoftware.rootexplorer	Paid	Root Explorer	No	No	No	No
522	com.fivebits.fitthefat	Free	Fit the Fat	Yes	No	Yes	No
523	com.turner.freefurall	Free	Free Fur All – We Bare Bears	No	Yes	Yes	No
524	com.spacegame.solitaire1	Free	Solitaire	Yes	No	No	N/A
525	com.ea.games.nfs13_na	Paid	Need for Speed Most Wanted	Yes	Yes	Yes	No
526	com.kuhakuworks.DOOORS	Free	DOOORS - room escape game -	Yes	No	No	Yes
527	com.timingames.findthedifferencecetim	Free	Find Differences	Yes	No	Yes	N/A
528	com.outfit7.movingeye.swampattack	Free	Swamp Attack	Yes	No	Yes	Yes
529	com.eamobile.life_na_wf	Paid	THE GAME OF LIFE	Yes	Yes	Yes	Yes
530	com.zynga.dreamzoo	Free	Dream Zoo	No	Yes	No	Yes
531	com.disney.nemo	Free	Nemos Reef	No	Yes	Yes	No
532	com.baviux.voicechanger	Free	Voice changer with effects	Yes	No	Yes	N/A
533	com.gamelion.cats	Free	Cats Dogs Slots&Slot machines	Yes	No	Yes	N/A
534	com.fs.fallensoulshd	Free	FallenSouls-SapphireWar	Yes	No	Yes	N/A
535	pixlr.OMatic	Free	Pixlr-o-matic	Yes	Yes	No	Yes
536	com.slotsromance.slots.android.free	Free	SLOTS ROMANCE: FREE Slots Game	Yes	No	Yes	N/A
537	com.crazystudio.emoji.kitkat	Free	Emoji Keyboard - CrazyCorn	Yes	No	No	N/A
538	ua.co.cts.sideup	Free	Move the Box	No	No	No	No
539	com.slotsromance.slots.android	Free	Slots Romance™: NEW SLOT GAME	Yes	No	Yes	N/A
540	com.concretesoftware.pbchallenge_androidmarket	Free	PBA® Bowling Challenge	No	No	Yes	No
541	com.tap4fun.reignofwar	Free	Invasion: Modern Empire	No	No	Yes	No
542	com.teamlava.jewel	Free	Jewel Mania™	Yes	No	Yes	Yes
543	com.mtvn.Nickelodeon.GameOn	Free	Sky Whale	No	Yes	Yes	Yes
544	com.scimob.ninetyfour.percent	Free	0.94	Yes	No	Yes	No
545	com.ggpssgames.creativekiller	Free	Stickman Creative Killer	Yes	No	Yes	N/A
546	jp.co.siliconstudio.ageofishtaria	Free	Age of Ishtaria - A.Battle RPG	No	No	Yes	No
547	ru.lextre.cr3d_ru	Free	Perfect Shift	Yes	No	Yes	No
548	com.stormaster.stormage	Free	Storm Age	No	No	Yes	Yes
549	com.SpaceInch.DiscoBees	Free	Disco Bees - New Match 3 Game	No	No	Yes	Yes
550	com.twelveeggs.heaven.slots	Free	Slots Heaven: FREE Slot Games!	Yes	No	Yes	No
551	com.fungamesforfree.colorfy	Free	Colorfy - Coloring Book Free	Yes	No	Yes	Yes
552	com.monstergame.plumber	Free	Plumber	Yes	No	No	N/A
553	com.sleepyzstudios.skisafari2	Free	Ski Safari 2	No	No	Yes	Yes
554	com.feelingtouch.lightshadow.globa	Free	Light Shadow Racing Online	No	No	Yes	N/A
555	com.disney.PirateWars	Free	Pirates of the Caribbean	Yes	Yes	Yes	N/A
556	com.game.BubbleTotem	Free	Bubble Totem	Yes	No	Yes	N/A
557	com.namcobandaigames.pacchomp	Free	PAC-CHOMP! namco	No	Yes	Yes	N/A
558	com.playmous.godoflight	Free	God of Light	No	No	Yes	Yes
559	com.djinnworks.StickmanBasketball	Free	Stickman Basketball	Yes	No	Yes	No
560	com.storm8studios.icecream	Free	Frozen Frenzy Mania – Match 3	No	No	Yes	Yes
561	com.flaregames.rttournamen	Free	Royal Revolt 2	Yes	No	Yes	No
562	com.sharkparty.bingo	Free	Bingo™	Yes	No	Yes	N/A
563	com.rovio.retry	Free	RETRY	No	No	Yes	No
564	com.ezjoy.feelingtouch.zombiediary	Free	Zombie Diary	No	No	Yes	N/A
565	com.hotheadgames.google.free.bigwinstockcar	Free	BIG WIN Racing	No	No	Yes	No
566	com.ldw.virtualfamilies2	Free	Virtual Families 2	Yes	No	Yes	Yes
567	com.selafield.russian	Free	Russian Roulette	Yes	No	No	N/A
568	com.funzio.crimecity	Free	Crime City (Action RPG)	No	Yes	Yes	Yes
569	com.iopixel.basketball2	Free	Tip-Off Basketball	No	No	Yes	Yes
570	com.wordsmobile.speedracing	Free	Speed Racing	Yes	No	Yes	N/A
571	com.mhedia.fingerprintlock	Free	Fingerprint Lock	Yes	No	No	N/A
572	com.miniclip.bikerivals	Free	Bike Rivals	No	Yes	Yes	No
573	com.playfirst.dinerdashx	Free	Diner Dash	No	No	Yes	No
574	com.emoji.keyboard.touchpal	Free	TouchPal Emoji Keyboard	No	No	No	Yes
575	com.vectorunit.yellow	Free	Beach Buggy Blitz	Yes	No	Yes	N/A
576	com.gameloft.android.ANMP.GloftTOHM	Free	The Oregon Trail: Settler	Yes	No	No	Yes
577	com.grandegames.slots	Free	Slots Forever™ FREE Casino	Yes	No	Yes	N/A
578	com.fingersoft.drunkenpee	Free	Drunken Pee	No	No	No	N/A
579	com.remind101	Free	Remind	No	No	No	Yes
580	com.dena.west.TransformersBattleTactics	Free	TRANSFORMERS: Battle Tactics	No	No	Yes	No
581	com.nfl.fantasy.core.android	Free	NFL Fantasy Football	Yes	Yes	No	Yes
582	com.contextlogic.geek	Free	Geek - Smarter Shopping	No	No	No	N/A
583	com.shopkick.app	Free	shopkick: Rewards & Deals	No	No	No	Yes
584	com.mss.allies.invasion.bs	Free	Alliance Wars:World Domination	No	No	Yes	No
585	com.dena.west.BloodBrothers2	Free	Blood Brothers 2: Strategy RPG	No	No	Yes	No
586	com.et.easy.download	Free	Easy Downloader	Yes	No	No	N/A
587	air.com.differencegames.hocandycrunchfrees	Free	Hidden Object - Candy World	Yes	No	Yes	N/A
588	com.ketchapp.springninja	Free	Spring Ninja	Yes	No	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
589	jp.pokemon.poketoru	Free	Pokémon Shuffle Mobile	No	Yes	Yes	No
590	com.iwin.dond	Free	Deal or No Deal	Yes	No	Yes	Yes
591	com.g6677.android.princessspas	Free	Makeup Spa - Girls Games	Yes	No	Yes	No
592	com.hoththeadgames.google.free.bigwinbasketbal	Free	BIG WIN Basketball	No	No	Yes	No
593	com.mog.android	Free	MOG Mobile Music	Yes	Yes	No	N/A
594	com.gamesforfriends.icomania	Free	Icomania	Yes	No	Yes	Yes
595	com.zentertain.classicvegasslots	Free	Slots™ - Classic Vegas Casino	Yes	No	Yes	No
596	com.mixradio.droid	Free	MixRadio Stream Free Music	Yes	Yes	No	N/A
597	com.progimax.airhorn.free	Free	Stadium Horn	Yes	No	Yes	N/A
598	com.puzzlesocial	Free	Daily Celebrity Crossword™	No	No	Yes	Yes
599	jp.co.ofcr.cm00	Free	COOKING MAMA Lets Cook!	No	No	Yes	No
600	com.visionbox.NoradTracksSanta	Free	NORAD Tracks Santa	No	No	Yes	Yes
601	com.reliancegames.drones	Free	Shadow Strike	Yes	Yes	Yes	Yes
602	biz.mtoy.blockpuzzle.revolution	Free	Block Puzzle	Yes	No	Yes	N/A
603	com.kabam.newcnhoc	Free	Heroes of Camelot	No	Yes	Yes	Yes
604	com.vg.SchoolBusExtended	Free	Schoolbus Driving 3D Simulator	Yes	No	Yes	N/A
605	com.alis.hero_uncube	Free	Need A Hero: Princess Rescue	Yes	No	Yes	Yes
606	com.jb.gosms.aemoji	Free	GO SMS PRO EMOJI PLUGIN	Yes	No	No	N/A
607	com.quelaba.sopalettras	Free	Word search	Yes	No	Yes	N/A
608	com.superant.wordsearch	Free	Word Search	Yes	No	Yes	N/A
609	jp.gree.dragonrealms	Free	Dragon Realms	No	Yes	No	N/A
610	com.miniclip.angerofstick2	Free	Anger of Stick 2	No	Yes	Yes	N/A
611	com.g6677.android.footspa	Free	Foot Spa - Kids games	Yes	No	Yes	Yes
612	com.ballytechnologies.quickhitslots	Free	Quick Hit Slots - Vegas Slots!	Yes	No	Yes	No
613	com.fusepowered.google.jawsrevenge	Free	Jaws™ Revenge	No	No	Yes	Yes
614	com.sei.android	Free	7-Eleven, Inc.	Yes	Yes	No	No
615	com.cmge.gplay.riseofdarkness	Free	Rise of Darkness	No	No	Yes	Yes
616	com.joelapenna.foursquared	Free	Foursquare — Best City Guide	Yes	Yes	No	Yes
617	com.rubyseven.tropworldcasino	Free	TropWorld Casino	No	No	Yes	Yes
618	com.ludia.dragons	Free	Dragons: Rise of Berk	Yes	No	Yes	Yes
619	com.mss.coin.party.candy.mania.saga.google	Free	Candy Party: Coin Carnival	Yes	No	Yes	No
620	com.foxnews.android	Free	Fox News	Yes	Yes	No	Yes
621	com.lumoslabs.lumosity	Free	Lumosity	No	Yes	No	Yes
622	davidgarcia.app.flyingdrizzy	Free	Tiny Flying Drizzy	No	No	Yes	No
623	com.animoca.google.starGirlBeautyQueen	Free	Star Girl: Beauty Queen	Yes	No	Yes	N/A
624	com.bandagames.mpuzzle.gp	Free	Magic Jigsaw Puzzles	Yes	No	Yes	N/A
625	com.prgames.livepoker.texasoldem2s	Free	Texas Holdem - Live Poker 2 S	Yes	No	Yes	N/A
626	com.stac.empire.main	Free	Age of Warring Empire	No	No	Yes	No
627	com.aceviral.angrygranrun	Free	Angry Gran Run - Running Game	Yes	No	Yes	No
628	com.rubyseven.rsvideopoker	Free	Ruby Seven Video Poker   Free	Yes	No	Yes	Yes
629	com.gamevil.dragonblaze1.android.google.global.normal	Free	Dragon Blaze: Chapter 2	No	No	Yes	N/A
630	com.droidhen.paperracing	Free	Paper Racing	Yes	No	Yes	N/A
631	com.lucasarts.tinydeathstar_goo	Free	Star Wars: Tiny Death Star	Yes	Yes	Yes	No
632	br.com.tapps.deardiary	Free	Dear Diary - Interactive Story	Yes	No	Yes	No
633	com.funfree.remote.app	Free	Remote Control for TV PRO	Yes	No	No	N/A
634	com.bigfishgames.gummydropgoogle	Free	Gummy Drop!	No	No	Yes	Yes
635	com.perblue.dragonsoul	Free	DragonSoul	No	No	Yes	Yes
636	com.fingersoft.nightvisioncamer	Free	Night Vision Camera	Yes	No	No	N/A
637	com.magamobile.game.Galaxy	Free	Galaxy	Yes	No	Yes	N/A
638	com.poshmark.app	Free	Poshmark - Buy & Sell Fashion	Yes	Yes	No	Yes
639	com.freemoodscanner	Free	Free Mood Scanner	Yes	No	No	N/A
640	com.topnewfree.coinrush	Free	Coin Rush - Free Dozer Game	Yes	No	Yes	N/A
641	com.eliferun.music	Free	Music Player for Android	Yes	No	No	N/A
642	com.contextlogic.wishlocal	Free	Wish Local - Buy & Sell	Yes	No	No	N/A
643	com.feelingtouch.gnz	Free	Zombie Evil	No	No	Yes	N/A
644	com.piviandco.agingbooth	Free	AgingBooth	No	No	No	Yes
645	com.pixlr.express	Free	Pixlr - Free Photo Editor	Yes	Yes	No	N/A
646	com.koushikdutta.rommanager.license	Paid	ROM Manager (Premium)	Yes	No	No	N/A
647	com.feelingtouch.shooting2	Free	Eagle Nest II: Revolution	Yes	No	Yes	N/A
648	com.mss.zombie.dozer.coin.monster.google	Free	Zombie Party: Coin Mania	Yes	No	Yes	N/A
649	com.crack.yourscreen.joke	Free	Crack your screen (Joke)	Yes	No	No	N/A
650	com.risingstar.android	Free	Rising Star ABC	Yes	No	No	No
651	com.nextgames.android.twd	Free	The Walking Dead No Mans Land	No	No	Yes	Yes
652	com.perblue.titanempires	Free	TE - City Strategy	No	No	Yes	N/A
653	com.glu.stuntracing	Free	MOTOCROSS MELTDOWN	No	No	Yes	No
654	com.orangenose.games.whatsmyiq	Free	Whats My IQ?™	Yes	No	Yes	Yes
655	com.fitch.jewelsquest	Free	Jewels Quest	Yes	No	Yes	N/A
656	com.slotsfavorites.slots.android	Free	SLOTS FAVORITES: SLOT MACHINES	Yes	No	Yes	No
657	com.gtson	Free	Guess The Song	Yes	No	No	N/A
658	com.com2us.kungfupet.normal2.freefull.google.glo	Free	Kung Fu Pets	No	No	Yes	N/A
659	bal.android.common						
659	com.gameforfun.linesclassic	Free	Lines Classic	Yes	No	Yes	N/A
660	com.freshgames.cubis	Free	Cubis® - Addictive Puzzler!	No	No	Yes	Yes
661	com.nexon.pocketMapleENG.gp	Free	Pocket MapleStory	No	Yes	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
662	com.glu.robcop	Free	RoboCop™	No	No	Yes	Yes
663	jp.co.siliconstudio.wvgrandsphere	Free	Grand Sphere	No	No	Yes	No
664	com.riffsy.FBMGIFApp	Free	GIF Keyboard	No	No	No	No
665	com.huuuge.vegas	Free	Slot Machines Casino	Yes	No	Yes	N/A
666	com.hiddenvariable.bagit.lite	Free	Bag It! FREE	No	No	Yes	Yes
667	com.puzzlegame.jigsaw	Free	Real Jigsaw - Free Puzzle Game	Yes	No	Yes	N/A
668	com.mgstudio.bg	Free	Battle Glory	No	No	Yes	No
669	com.dotgears.swing	Free	Swing Copters	Yes	No	Yes	No
670	com.mobage.wv.a1903.SWTD Android	Free	Star Wars™: Galactic Defense	Yes	No	Yes	No
671	com.veewo.clearall	Free	Just Clear All	No	No	Yes	No
672	com.draftkings.dknativermgGF	Free	DraftKings	No	No	No	Yes
673	jp.co.translimit.braindots	Free	Brain Dots	Yes	No	Yes	No
674	com.bhvr.homejam	Free	Home: Boov Pop!	No	No	Yes	No
675	com.feelingtouch.racingcar	Free	Death Racing	Yes	No	No	N/A
676	com.lego.superheroes.dccomicsteamup	Free	LEGO® DC Super Heroes	No	Yes	Yes	N/A
677	com.sega.cityrush	Free	Crazy Taxi™ City Rush	No	Yes	Yes	Yes
678	com.eamobile.nbajam na wf	Paid	NBA JAM by EA SPORTS™	Yes	Yes	Yes	Yes
679	air.com.disney.hiddendisney.goc	Free	Disney Hidden Worlds	Yes	Yes	No	Yes
680	com.nexxstudio.dulp	Free	Dulp	No	No	Yes	No
681	com.gadgetcrafts.gt4	Free	Glass Tower World	No	No	No	Yes
682	com.mss.coinparty.pharaoh.dozer.slot.google	Free	Pharaohs Party: Coin Pusher	Yes	No	Yes	N/A
683	cn.easymobi.game.whatdiffhc	Free	What Diff? Find IT	Yes	No	Yes	N/A
684	com.twelveegits.solitaire.android	Free	SOLITAIRE VEGAS!	Yes	No	Yes	N/A
685	com.donopo.mary10	Free	Mary X	No	No	Yes	Yes
686	com.emudev.n64	Free	N64 Emulator	Yes	No	No	N/A
687	com.aiadp.resquiz	Free	Guess the Restaurant Quiz	Yes	No	Yes	N/A
688	com.feelingtouch.empirewaronline	Free	Empire War - Best MMORPG Game	No	No	Yes	N/A
689	com.world.monster	Free	Monster World HD	No	No	Yes	Yes
690	air.com.sublinet.tastytale	Free	Tasty Tale - the cooking game	No	No	Yes	No
691	com.jumpgames.rswrb	Free	Real Steel World Robot Boxing	Yes	Yes	Yes	No
692	com.sex.phoenix.advanced	Free	Sex Position Advanced	Yes	No	No	N/A
693	com.r2gamesusa.shardsofmagic	Free	Shards of Magic	No	No	Yes	No
694	com.gameloft.android.ANMP.GloftSXHM	Free	Six-Guns: Gang Showdown	Yes	No	Yes	N/A
695	com.ecapycsw.onetouchdrawing	Free	One touch Drawing	Yes	No	Yes	Yes
696	com.king.pyramidsolitairesaga	Free	Pyramid Solitaire Saga	No	Yes	Yes	Yes
697	com.samsungmobileusa.magnacarta	Free	JAY Z Magna Carta	No	Yes	No	N/A
698	air.com.sq.atlantis	Free	Atlantis Adventure: match - 3	No	No	Yes	Yes
699	com.naturalmotion.clumsyninja	Free	Clumsy Ninja	No	No	Yes	Yes
700	com.tabtale.newbaby	Free	My Newborn - Mommy & Baby Care	Yes	No	Yes	No
701	com.fireflygames.rushofheroes	Free	Rush of Heroes	No	No	Yes	N/A
702	com.miniclip.railrush	Free	Rail Rush	Yes	Yes	Yes	No
703	radiotime.player	Paid	TuneIn Radio Pro - Live Radio	Yes	Yes	No	Yes
704	com.cdroid.dominos	Free	Dominoes	Yes	No	Yes	N/A
705	com.jackandr.duckhunting	Free	Duck Hunting	Yes	No	Yes	N/A
706	com.fingersoft.failhard	Free	Fail Hard	Yes	No	Yes	No
707	com.glu.deerhuntnew	Free	DEER HUNTER RELOADED	Yes	No	Yes	No
708	com.roguerocketgames.m3s	Free	Jackpot Gems	Yes	No	Yes	No
709	com.onlineconvergence.spintowinslots	Free	Spin To Win Slots	Yes	No	Yes	N/A
710	com.hemispheregames.osmos	Paid	Osmos HD	No	No	Yes	Yes
711	com.minogames.minomonster	Free	Mino Monsters 2: Evolution	No	No	Yes	No
712	com.kiwi.skullislandexplorers	Free	Explorers: Skull Island	No	No	Yes	N/A
713	air.com.gamesys.mobile.slots.jpj	Free	Jackpotjoy Slots	Yes	No	Yes	Yes
714	net.peakgames.amy	Free	Toy Blast	Yes	No	Yes	No
715	com.ea.game.fifa14 na	Free	FIFA 14 by EA SPORTS™	Yes	Yes	Yes	No
716	com.amusetime.buildingtower	Free	Building Tower	Yes	No	No	N/A
717	com.play.airhockey	Free	Air Hockey Deluxe	Yes	No	Yes	N/A
718	com.flaregames.craftedevil	Free	Evoker: Magic Card Game (TCG)	Yes	No	Yes	N/A
719	com.huuuge.zeus	Free	Slots - Zeus Casino Games	Yes	No	Yes	N/A
720	cloudtv.hdwidgets	Paid	HD Widgets	Yes	No	No	N/A
721	com.jrtstudio.music	Free	Music Player	Yes	No	No	N/A
722	com.intuit.turbotax.mobile	Free	TurboTax Tax Return App	No	Yes	No	No
723	com.uken.android.titans	Free	Titans	No	No	Yes	N/A
724	com.joker.xraydroid	Free	X-Ray Droid Scanner	Yes	No	Yes	N/A
725	com.lk.szrus	Free	Blade of God	Yes	No	Yes	Yes
726	com.hoththeadgames.google.free.bigwinfootball	Free	Big Win Football 2015	No	No	Yes	No
727	com.g6677.android.princesshs	Free	Princess Hair Salon	Yes	No	Yes	No
728	com.skippy.mountain.sniper.shooting	Free	Mountain Sniper Shooting 3D	Yes	No	Yes	No
729	com.kmagic.solitaire	Free	Solitaire	Yes	No	No	N/A
730	com.tap4fun.islandraiders	Free	Island Raiders: War of Legends	No	No	Yes	No
731	com.scottgames.fivenightsatfreddys	Paid	Five Nights at Freddy's	No	No	Yes	No
732	com.bgames.android.nopimple	Free	No Pimple - Fun games	No	No	Yes	No
733	com.sparklingsociety.cityislandairport2	Free	City Island: Airport 2	Yes	No	Yes	N/A
734	com.disney.cpcompanion goc	Free	Club Penguin	No	Yes	Yes	Yes
735	com.kabam.fortress	Free	The Hobbit: Kingdoms	No	Yes	Yes	Yes
736	com.sparklingsociety.cityisland	Free	City Island™: Builder Tycoon	Yes	No	Yes	No



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
737	com.and.games505.Terraria	Free	Terraria	Yes	No	Yes	Yes
738	com.eamobile.monopoly na w/	Paid	MONOPOLY	No	Yes	Yes	Yes
739	com.feelingtouch.zew	Free	Zombie Evil 2	No	No	Yes	N/A
740	com.robtopx.geometrydashmeltdownr	Free	Geometry Dash Meltdown	Yes	No	Yes	No
741	jamgame.rotatecm	Free	Rotate - Fast Paced Action	No	No	Yes	N/A
742	com.and.games505.TerrariaPaid	Paid	Terraria	Yes	No	Yes	Yes
743	com.cmff.stickman	Free	Stickman Trials	Yes	No	Yes	N/A
744	com.snailgameusa.tp	Free	Taichi Panda	No	No	Yes	Yes
745	com.kabam.swat	Free	Star Wars™: Uprising	No	Yes	Yes	No
746	com.nexonm.basebusters	Free	Base Busters	No	No	Yes	N/A
747	com.robtopx.geometryjump	Paid	Geometry Dash	Yes	No	Yes	No
748	com.bestsolitaire.solitaire	Free	Solitaire 2014	Yes	No	Yes	N/A
749	com.kanvas.fbmessage	Free	Kanvas Lab	No	No	No	No
750	com.djinnworks.StickmanImpossibleRun	Free	Stickman Impossible Run	Yes	No	Yes	N/A
751	com.normafosterdev.jewelsparadise	Free	Jewels Paradise	Yes	No	Yes	N/A
752	com.reindeercasino.slotvegas	Free	Slots Vegas Jackpot- Free!	Yes	No	Yes	N/A
753	com.glu.baseball	Free	TAP SPORTS BASEBALL	No	No	Yes	Yes
754	me.tango.warinc	Free	War Inc. - Modern World Combat	Yes	No	Yes	N/A
755	air.com.differencegames.hoochristmastreefree	Free	Hidden Object - Christmas Tree	Yes	No	Yes	N/A
756	com.ultimateguitar.tabs	Paid	Ultimate Guitar Tabs & Chords	Yes	No	No	Yes
757	air.com.nbcuni.com.nbcsports.liveextra	Free	NBC Sports Live Extra	Yes	Yes	No	No
758	com.superluckycasino.nolimit.slots.vegas.android.free	Free	SLOTS: No Limit Slot Machines!	Yes	No	Yes	N/A
759	com.glu.zamfl	Free	ZOMBIES ATE MY FRIENDS	No	No	Yes	Yes
760	ru.empireappsandgames.simulatorlaser	Free	Simulator Laser	Yes	No	Yes	N/A
761	com.smule.songify	Free	Songify by Smule	No	No	No	Yes
762	com.mobage.ww.a692.Bahamut Android	Free	Rage of Bahamut	No	No	Yes	No
763	com.kabam.doamobile	Free	Dragons of Atlantis: Heirs	No	Yes	Yes	Yes
764	Game.NDK	Free	SpeedCar	No	No	Yes	Yes
765	ca.roofdog.roadtrip2	Free	Extreme Road Trip 2	Yes	No	Yes	No
766	emoji.keyboard.emoticonkeyboard	Free	Emoji Keyboard Cute Emoticons	Yes	No	No	N/A
767	com.gamevil.do2.global	Free	Dark Avenger	No	No	Yes	Yes
768	com.disney.disneydescendants goo	Free	Descendants	Yes	Yes	Yes	Yes
769	com.tmssoft.compulsive	Free	Compulsive	No	No	Yes	No
770	com.zencap.DirtBikeRallyFree	Free	Dirt Bike Motocross Rally	Yes	No	No	No
771	com.cleanmaster.bigbang	Free	Big Bang 2048	No	No	Yes	N/A
772	com.iugome.day	Free	Rage of the Immortals	No	Yes	Yes	N/A
773	com.pearlgames.villagecityislandsin	Free	Village City - Island Sim	No	No	Yes	No
774	air.com.buffalo_studios.bingorush2	Free	Bingo Rush 2	Yes	No	Yes	No
775	com.feelingtouch.crossx	Free	Zombie Road	No	No	Yes	N/A
776	com.disney.WMP	Paid	Wheres My Perry?	Yes	Yes	Yes	Yes
777	com.twodboy.worldofgoofull	Paid	World of Goo	No	No	Yes	Yes
778	com.turner.cnvideoapp	Free	Cartoon Network App	Yes	Yes	No	Yes
779	com.gameloft.android.ANMP.GloftMBHM	Free	Men In Black 3	No	No	Yes	N/A
780	com.asobimo.izanagiEnglishOnline	Free	RPG IZANAGI ONLINE MMORPG	No	No	Yes	Yes
781	com.miniclip.soccerstars	Free	Soccer Stars	Yes	Yes	Yes	No
782	com.aemobile.games.casino.saga.poker	Free	Casino Saga: Vegas Slots Poker	Yes	No	Yes	N/A
783	com.gamefactory.jumpingmonkey	Free	Jumping Monkey	Yes	No	No	N/A
784	com.kiwi.goldrush	Free	Westbound: Gold Rush	No	No	Yes	N/A
785	x.JewelsDeluxe	Free	Jewels Deluxe	Yes	No	No	N/A
786	ata.squid.kaw	Free	Kingdoms at War: #1 PVP MMORPG	No	No	Yes	No
787	com.onefootball.brasil	Free	Onefootball Brasil - World Cup	No	No	No	No
788	com.gameloft.android.ANMP.GloftB2HM	Free	Brothers In Arms® 2 Free+	Yes	No	Yes	Yes
789	com.fluik.PlumberCrack	Free	Plumber Crack	No	No	Yes	Yes
790	gpr.apps.mw3guns	Free	MW3 Guns	Yes	No	Yes	N/A
791	com.reactive.bridge.beta	Free	Bridge Architect Lite	Yes	No	Yes	N/A
792	com.disney.maleficent goc	Free	Maleficent Free Fall	Yes	Yes	Yes	No
793	com.gamevil.fantasywarlord.ad.google.ww.norma	Free	Fantasy Warlord	No	No	Yes	No
794	com.creativemobile.nnc	Free	Nitro Nation Racing	Yes	No	Yes	No
795	com.gree.bfherorun	Free	Batman & The Flash: Hero Run	No	Yes	Yes	N/A
796	com.target.socsav	Free	Cartwheel by Target	No	Yes	No	No
797	com.handmark.sportcaster	Free	CBS Sports	Yes	Yes	No	Yes
798	com.mobage.ww.a1879.Cupcake Carnival Android	Free	Cupcake Carnival	Yes	No	Yes	N/A
799	air.com.differencegames.hopumpkinpatchfree	Free	Hidden Object - Pumpkin Patch	Yes	No	Yes	N/A
800	com.kabam.divine.android	Free	Divine Might - 3D MMORPG	No	Yes	Yes	N/A
801	com.kidbear.addone	Free	Tap me +1	No	No	Yes	No
802	com.outfit7.tomsjetski	Free	Talking Tom Jetski	Yes	No	Yes	N/A
803	air.com.A5thplanetgames.dotd	Free	Dawn of the Dragons	No	No	Yes	Yes
804	icomania.guess.word.icon.mania.logo.quiz	Free	Guess The Brand	Yes	No	Yes	N/A
805	com.topfreegames.solitaire	Free	Solitaire Vegas™ FREE Game	Yes	No	Yes	N/A
806	com.ea.game.fifa15 row	Free	FIFA 15 Ultimate Team	Yes	Yes	Yes	No
807	com.tamalaki.hogmysterysociety	Free	Hidden Object Mystery Society	Yes	No	Yes	Yes
808	com.madebyappolis.spinrill	Free	Spinrill	No	No	No	Yes
809	com.dragonplay.dragonplaypoker	Free	Dragonplay Poker Texas Holdem	Yes	No	Yes	N/A
810	com.bg.wtptap	Free	Whats the Pic	Yes	No	Yes	N/A
811	itembox.crayfish.playhouse	Free	Playhouse Slots	Yes	No	Yes	N/A

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
812	com.szlab.solarcharger	Free	Solar Charger	Yes	No	No	N/A
813	com.blockdot.universal.truffulaShuffle	Free	Truffula Shuffle - The Loras	No	Yes	No	N/A
814	com.hyperkani.rope	Free	Rope Escape	No	No	Yes	N/A
815	jp.co.ponos.battlecatsen	Free	The Battle Cats	No	No	Yes	No
816	air.com.differencegames.hohappythanksgivingfre	Free	Happy Thanksgiving Hidden Obj	Yes	No	Yes	N/A
817	com.gameresort.sz2google	Free	Stupid Zombies 2	No	No	Yes	No
818	com.pocketgems.android.night	Free	Night at the Museum:Hidden Key	No	No	Yes	No
819	us.kick9.k3000000008.c3101000001	Free	NBA All Net	No	No	Yes	No
820	com.pixelberrystudios.hwuandroid	Free	Hollywood U: Rising Stars	No	No	Yes	No
821	com.scvngr.android.app	Free	SCVNGR	No	No	No	Yes
822	mobi.ifunny	Free	iFunny :)	Yes	No	No	Yes
823	com.scottgames.fnaf2	Paid	Five Nights at Freddy's 2	No	No	Yes	No
824	com.feelingtouch.swat2	Free	SWAT 2	No	No	Yes	N/A
825	com.sharkparty.cluebingo	Free	CLUE Bingo	No	No	Yes	Yes
826	com.nexon.fwar	Free	Fantasy War Tactics	No	Yes	Yes	No
827	universal.tv.remote.v3	Free	Remote Control for TV (PRO)	Yes	No	Yes	N/A
828	com.xusheng.logoquiz	Free	Logo Quiz	Yes	No	Yes	N/A
829	com.asobimo.stellacept online en	Free	MMORPG Stellacept Online	No	No	Yes	No
830	com.xusheng.wordsearch	Free	Word Search	Yes	No	Yes	N/A
831	com.aldean.slots.android.free	Free	Jason Aldean Slot Machines	Yes	No	Yes	N/A
832	air.com.differencegames.ninecardgamescombopack	Free	9 Fun Card Games - Solitaire	Yes	No	Yes	N/A
833	com.rhapsody	Free	Rhapsody Music Player	Yes	Yes	No	No
834	com.zynga.matching	Free	Matching With Friends	No	Yes	Yes	Yes
835	com.venan.boh	Free	Book of Heroes	No	Yes	Yes	Yes
836	air.com.sgn.bookoflife.gr	Free	Sugar Smash	No	No	Yes	Yes
837	com.wegoi.brickfree	Free	BRICKS BREAKER - FRIENDS	Yes	No	Yes	N/A
838	com.yahoo.mobile.client.android.imvindex	Free	Yahoo Messenger Plug-in	Yes	Yes	No	N/A
839	com.att.myWireless	Free	myAT&T	Yes	Yes	No	Yes
840	com.FireproofStudios.TheRoom	Paid	The Room	Yes	No	Yes	Yes
841	com.flaregames.gameofknights	Free	Throne Wars	Yes	No	Yes	N/A
842	com.audible.application	Free	Audiobooks from Audible	Yes	Yes	No	Yes
843	com.morecast.weather	Free	MORECAST- Free Premium Weather	No	No	No	No
844	com.teamlava.fruitsplash	Free	Fruit Splash Mania	Yes	No	Yes	Yes
845	com.paypal.android.p2pmobile	Free	PayPal	Yes	Yes	No	Yes
846	com.hibernum.brucelee.entertgame	Free	Bruce Lee: Enter The Game	No	No	Yes	No
847	com.my.irondesert	Free	Iron Desert - Fire Storm	No	No	Yes	N/A
848	com.mss.coin.party.jurassic.dozer.google	Free	Dino Dozer: Coin Carnival!	No	No	Yes	N/A
849	com.actoz.mb	Free	Iron Knights	No	No	Yes	No
850	uk.co.monterosa.msq	Free	The Million Second Quiz	No	Yes	No	Yes
851	scare.your.friends.prank.maze.halloween	Free	Scare Your Friends - JOKE!	No	No	Yes	N/A
852	com.gowiper.android	Free	Wiper	No	No	No	No
853	com.patigames.minimor	Free	Minimon Masters	No	No	Yes	No
854	com.chirpme.swipe	Free	Swipe	No	No	No	No
855	com.wb.wwe.brawler2014	Free	WWE Immortals	No	Yes	Yes	No
856	com.superluckycasino.billionaire.slots.vegas.andro id.free	Free	SLOTS: Billionaire Slot Games!	Yes	No	Yes	N/A
857	com.ideashower.readitlater.pro	Free	Pocket	No	No	No	Yes
858	com.mavenhut.solitairecup	Free	Solitaire Cup	Yes	No	Yes	N/A
859	com.fangcun.gg.us	Free	Guns GirlZ - Escape Ragnarök	No	No	Yes	Yes
860	com.zqgame.SG.en.androidgp	Free	Soul Guardians: Age of Midgard	No	No	Yes	No
861	com.tinidream.bingorur	Free	Bingo Run - FREE BINGO GAME	Yes	No	Yes	Yes
862	com.perplelab.hod	Free	Dragon Heroes: Shooter RPG	No	No	Yes	No
863	miyowa.android.microsoft.wlnr	Free	Messenger With You	Yes	No	No	N/A
864	com.teamlava.dragon35	Free	Dragon Story: Springtime	No	No	No	N/A
865	net.zentertain.funvideo	Free	Fideo: Fun Video	No	No	No	N/A
866	com.greencod.badtraffic	Free	Bad Traffic	Yes	No	Yes	No
867	jp.colopl.ni.wcatus	Free	Colopl Rune Story	No	No	Yes	No
868	com.kongregate.mobile.run.google	Free	Run	No	No	Yes	N/A
869	com.fedeen.fswd	Free	Forsaken World Mobile MMORPG	No	No	Yes	No
870	com.glu.bgc	Free	BLOOD & GLORY: IMMORTALS	No	No	Yes	No
871	com.acmeaom.android.myradar	Free	MyRadar Weather Radar	Yes	No	No	Yes
872	com.bandainamcogames.pacfriends	Free	PAC-MAN Friends	No	Yes	Yes	No
873	com.nuance.swype.dtc	Paid	Swype Keyboard	No	No	No	No
874	com.gadgetcrafts.grblackjackpro	Free	Blackjack	Yes	No	No	N/A
875	cn.partygame.revengebird	Free	Revenge Bird -Crush tiles	Yes	No	Yes	N/A
876	com.socialcam.android	Free	Socialcam	No	Yes	No	Yes
877	kr.aboy.tools	Paid	Smart Tools	Yes	No	No	N/A
878	com.g6677.android.eyemakeup	Free	Eyes Makeup Salon - kids games	Yes	No	Yes	No
879	com.dataviz.docstogoapp	Paid	Docs To Go™ Premium Key	No	No	No	Yes
880	com.farsight.AndroidPinball.javaProject	Free	Pinball Arcade	No	No	Yes	Yes
881	me.tango.fishpic	Free	Marine Adventure for TANGO	No	No	Yes	N/A
882	com.mavenhut.solitaire.mobile	Free	Mobile Solitaire	Yes	No	Yes	N/A
883	com.animoca.google.starGirlValentine	Free	Star Girl: Valentine Hearts	Yes	No	Yes	N/A
884	com.skimble.workouts	Free	Workout Trainer fitness coach	No	No	No	Yes
885	com.veevo.get10s	Free	Just Get 10 - Seasons	Yes	No	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
886	com.mobage.ww.a1439.Bingo PartyLand	Free	Bingo PartyLand	Yes	No	Yes	N/A
887	com.foxugame.us	Free	Naval Age	No	No	Yes	N/A
888	com.confidencebelievelength.andgooc	Free	Electric Screen-Live Wallpaper	Yes	No	No	N/A
889	com.kakapo.slots	Free	Slots Fever - slot machines	Yes	No	No	N/A
890	com.ssc.fitfat	Free	Lose Weight - Slimming	Yes	No	Yes	N/A
891	com.hothheadgames.google.free.rawspace	Free	Rivals at War: 2084	No	No	Yes	No
892	com.superluckycasino.megadiamond.slots.vegas.android.free	Free	MEGA DIAMOND: Slot Machines!	Yes	No	Yes	N/A
893	com.manboker.headportrait	Free	MomentCam Cartoons & Stickers	No	No	No	No
894	com.gamevil.elements	Free	Elements: Epic Heroes	Yes	No	Yes	Yes
895	com.superluckycasino.slotspharaohs.slots.android.free	Free	FREE SLOTS: Pharaohs Plunder	Yes	No	Yes	N/A
896	dk.tactile.discoducks	Free	Disco Ducks	No	No	Yes	N/A
897	com.twitter.android.tv	Free	Twitter for Google TV	Yes	Yes	No	Yes
898	mobi.gameguru.racingfever	Free	Racing Fever	No	No	Yes	No
899	com.tobiapps.android.100floors_guide	Free	100 Floors Official Cheats	No	No	No	Yes
900	com.coffeestainstudios.goatsimulator	Paid	Goat Simulator	Yes	No	Yes	No
901	com.pandora.android.gtv	Free	Pandora® Radio for Google TV	Yes	Yes	No	Yes
902	air.com.differencegames.hohappyvalentinesfree	Free	Hidden Object: Valentines Day	Yes	No	Yes	N/A
903	com.metago.astro	Free	ASTRO File Manager	Yes	No	No	N/A
904	me.dreamsky.leagueofstickman	Free	League of Stickman Free	Yes	No	Yes	No
905	com.genina.android.blackjack.view	Free	BLACKJACK!	Yes	No	Yes	N/A
906	air.com.tamalaki.rorysrestaurantfree	Free	Hidden Object Rorys Restaurant	Yes	No	Yes	N/A
907	com.mobisystems.editor.office_register	Paid	OfficeSuite Pro + PDF	Yes	No	No	No
908	air.com.differencegames.hoautumnngardenfree	Free	Hidden Object - Autumn Garden	Yes	No	Yes	N/A
909	com.mavenhut.solitaire.tournament	Free	Tournaments Solitaire	Yes	No	Yes	N/A
910	com.slots.best.android	Free	SLOTS!	Yes	No	Yes	N/A
911	sts.bc	Free	Battle Command!	No	No	Yes	No
912	com.mss.princess.coin.queen.palace.gp	Free	Princess Coin Palace	No	No	Yes	N/A
913	com.zynga.wordsontour	Free	Words On Tour	No	Yes	Yes	No
914	com.djinnworks.StickmanBaseJumper.lite	Free	Stickman Base Jumper	Yes	No	Yes	No
915	air.com.differencegames.hosummerngardenfree	Free	Hidden Object - Summer Garden	Yes	No	Yes	No
916	com.com2us.nipb2013.normal.freefull.google.glob.al.android.common	Free	9 Innings: 2015 Pro Baseball	No	No	Yes	No
917	com.univision.android	Free	Univision	No	Yes	No	N/A
918	com.kb.Carrom3D	Free	Pool Break 3D Billiard Snooker	No	No	Yes	Yes
919	com.z14.darkdemon	Free	Dark of the Demons	No	No	Yes	No
920	air.com.perfectworld.ek	Free	Elemental Kingdoms (CCG)	No	No	Yes	Yes
921	com.oldwang1.darts	Free	Darts	Yes	No	No	N/A
922	com.kakapo.vegasslots	Free	Slots Fever - Free VegasSlots	Yes	No	Yes	N/A
923	air.com.tamalaki.hmthree.free	Free	Home Makeover 3 Hidden Object	Yes	No	Yes	N/A
924	com.i3d.designthishome	Free	Design This Home	No	No	Yes	Yes
925	com.robotinvader.fooding	Free	Rise of the Blobs	No	No	Yes	Yes
926	com.igg.minitoss_en	Free	Mini Toss	No	No	Yes	N/A
927	com.turner.cardwars	Paid	Card Wars - Adventure Time	Yes	Yes	Yes	Yes
928	com.sd.google.hkcafehaloween	Free	Hello Kitty Cafe Seasons	Yes	Yes	Yes	N/A
929	com.spryfox.alphabear	Free	Alphabear	No	No	Yes	N/A
930	air.com.tamalaki.homemakeovertwo.gp	Free	Hidden Object Home Makeover 2	Yes	No	Yes	N/A
931	com.letiantang.hamsterteamrescure	Free	Hamster Team Rescue	No	No	Yes	No
932	com.tdr3.hs.android	Paid	HotSchedules	Yes	Yes	No	Yes
933	com.quoord.tapataalkxdapre.activity	Paid	XDA Premium	Yes	No	No	N/A
934	com.sevenga.iron.gp	Free	Iron Commander	No	No	Yes	Yes
935	com.dg.puzzlebrothers.mahjong.springishere	Free	Hidden Mahjong: Spring Is Here	Yes	No	Yes	N/A
936	com.feelingtouch.sod	Free	Storm of Darkness	No	No	Yes	N/A
937	com.tp.android.lmaternitydoctor	Free	Newborn Baby Doctor	Yes	No	Yes	N/A
938	com.slots.classicvegas	Free	Classic Vegas Slots	Yes	No	Yes	N/A
939	com.feelingtouch.slotworld	Free	Slot Carnival	Yes	No	Yes	N/A
940	com.samsung.oh	Free	Samsung+	No	Yes	No	N/A
941	com.nbadigital.gametimegtv	Free	NBA Game Time for Google TV	No	Yes	No	N/A
942	com.disney.WheresMyHoliday GOO	Free	Wheres My Valentine?	Yes	Yes	Yes	No
943	com.gamevil.kaizinrumble	Free	Kaizin Rumble:World Dominator	No	No	Yes	N/A
944	com.wordmillionaire.word.android	Free	WORD MILLIONAIRE™: WORD PUZZLE	Yes	No	Yes	N/A
945	com.square_enix.android_googleplay.deadmanscrossswv	Free	Deadmans Cross	No	Yes	Yes	No
946	com.mss.space.party.star.dozer.galaxy.coin.google	Free	Coin Stars: Slots Pusher!	Yes	No	Yes	N/A
947	com.noodlecake.ssg2	Free	Super Stickman Golf 2	No	No	Yes	No
948	com.estrongs.android.pop	Free	ES File Explorer File Manager	Yes	No	No	N/A
949	com.quoord.tapataalkpro.activity	Paid	Tapatalk - Forums & Interests	Yes	No	No	No
950	com.TycoonMania	Free	Make It Rain: TycoonMania	No	No	Yes	N/A
951	com.outfit7.talkingsantafree	Free	Talking Santa	Yes	No	No	Yes
952	com.atv.blackops	Paid	Call of Duty Black Ops Zombies	No	Yes	Yes	Yes
953	en.co.atm.unison	Free	Unison League	No	No	Yes	No
954	com.tamalakupublish.android.archiegame	Free	Archie Saves Riverdale	No	No	Yes	N/A
955	com.uken.android.crimeinc	Free	Crime Inc.	Yes	No	Yes	Yes



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
956	air.com.socialcasino.bingosecretworld	Free	Bingo - Secret Cities	Yes	No	Yes	N/A
957	com.tencent.mc	Free	Monster Castle	Yes	No	Yes	No
958	com.playfirst.playground.hoteltransylvaniadash	Free	Hotel Transylvania Dash	No	No	Yes	Yes
959	com.mavenhut.solitaire.championships	Free	Solitaire Championships	Yes	No	Yes	No
960	com.fgl.actiongameslab.match3puzzleadventure	Free	Match-3 Puzzle Adventure	Yes	No	Yes	N/A
961	com.lookout.stagefrightdetector	Free	Stagefright Detector	No	No	No	N/A
962	com.bulkyipix.jewelgalaxy	Free	Jewel Galaxy	Yes	No	Yes	N/A
963	jamgame.absorb	Free	ABSORPTION	No	No	Yes	Yes
964	com.freshgames.escapethetitanic	Free	Escape Titanic	No	No	Yes	Yes
965	com.magmamobile.game.Smasht	Free	Smash	Yes	No	Yes	Yes
966	air.com.r2gamesusa.clickerheroes	Free	Clicker Heroes	No	Yes	Yes	No
967	com.fireflygames.epicknight	Free	Epic Knights	No	No	Yes	No
968	org.oasgames.loen3	Free	Legend online - Pocket Edition	No	No	Yes	Yes
969	com.outplayentertainment.bootyquest	Free	Booty Quest – Match 3 Jewels!	Yes	No	Yes	N/A
970	com.lucasarts.starts_goo	Free	Star Wars™: Commander	Yes	Yes	Yes	No
971	com.gamevil.jackpotmadness.global	Free	Jackpot Madness Slots	Yes	No	Yes	N/A
972	com.epicspacewar.game	Free	Galaxy Voyage	No	No	Yes	Yes
973	com.sparklingsociety.cityislandairport	Free	City Island: Airport™	Yes	No	Yes	N/A
974	com.ubisoft.raymanadventures	Free	Rayman Adventures	Yes	Yes	Yes	Yes
975	com.tinidream.farmslots	Free	Money Farm Slots	Yes	No	Yes	N/A
976	media.music.musicplayer	Free	Music Player - Audio Player	Yes	No	No	N/A
977	com.miniclip.fraggerfree	Free	Fragger	Yes	Yes	Yes	Yes
978	com.nexon.devcat.mabinogiduel.global	Free	Mabinogi Duel: G2 EraOfDragons	No	Yes	Yes	No
979	com.rktonline.waytogold	Free	Way to Gold	No	No	Yes	No
980	com.opera.mini.android	Free	Opera Mini mobile web browser	Yes	Yes	No	Yes
981	com.purplekiwi.mb	Free	MonsterBusters: Match 3 Puzzle	Yes	No	Yes	No
982	com.gameloft.android.ANMP.GloftMTHM	Free	World at Arms	Yes	No	Yes	Yes
983	me.scan.android.client	Free	QR Code Reader	Yes	No	No	Yes
984	com.pocketgems.android.animalvoyage	Free	Animal Voyage:Island Adventure	No	No	Yes	Yes
985	com.miniclip.cartownstreets	Free	Car Town Streets	No	Yes	Yes	Yes
986	com.droidhen.fruit	Free	Fruit Slice	Yes	No	Yes	N/A
987	com.tinidream.bingo2014new	Free	Bingo 2014	Yes	No	Yes	N/A
988	com.mavenhut.solitaire3	Free	Solitaire 3 Arena	Yes	No	Yes	N/A
989	com.wistone.war2victory.nen	Free	War 2 Victory	No	No	Yes	Yes
990	com.aws.android.elite	Paid	WeatherBug Elite	Yes	Yes	No	Yes
991	com.smgstudio.onemoreline	Free	One More Line	Yes	No	Yes	No
992	com.feelingtouch.racingmotc	Free	Death Racing:Moto	Yes	No	Yes	N/A
993	com.gamegarden.fd	Free	Farmdale	No	No	Yes	No
994	com.patigames.ilovepasta4gsp	Free	I LOVE PASTA	No	No	Yes	No
995	com.huuge.casino.slots	Free	Slots™ Huuge Casino	Yes	No	Yes	N/A
996	com.casinojoy.videoslots	Free	Casino Joy Free Slots & Games	Yes	No	Yes	N/A
997	com.in.xray.scanner.us	Free	Bubble Shooter	Yes	No	Yes	N/A
998	air.com.differencegames.hiddenscenes.wondersfree	Free	Hidden Scenes - World Wonders	No	No	Yes	No
999	com.forgame.slots	Free	Slots Casino - Free Spin!	Yes	No	Yes	N/A
1000	com.creativemobile.roadsmash.two	Free	Road Smash 2: Hot Pursuit	No	No	Yes	N/A
1001	com.sharkparty.bingo16	Free	Bingo™: World Games	Yes	No	Yes	No
1002	com.RocketGames.RichesofZeus	Free	Slots Zeus Riches Casino Slots	Yes	No	Yes	N/A
1003	com.ezjoy.feelingtouch.zombiediary2	Free	Zombie Diary 2: Evolutor	No	No	Yes	N/A
1004	com.letang.game103.en	Free	King Fighter II	Yes	No	No	N/A
1005	com.realarcade.DOJ	Paid	Doodle Jump	Yes	Yes	No	Yes
1006	com.dg.stunningsoftware.match3.summergarden	Free	Match 3 - Summer Garden	Yes	No	Yes	N/A
1007	com.superluckycasino.superfree.slots.vegas.android.free	Free	Super Free Slot Machine Games!	Yes	No	Yes	N/A
1008	com.abitofgames.callbingo	Free	Call Bingo	Yes	No	Yes	No
1009	com.gamehouse.casino	Free	GameHouse Casino Plus	Yes	Yes	Yes	N/A
1010	com.miniclip.pingpong	Free	Ping Pong - Best FREE game	No	Yes	Yes	N/A
1011	com.zentertain.worldtourcasino	Free	World Tour Casino™- FREE slots	Yes	No	Yes	N/A
1012	com.gamevilusa.dungeonlink.android.google.global.normal	Free	Dungeon Link	No	No	Yes	N/A
1013	ru.redspell.whattheword	Free	Whats the Word: 4 pics 1 word	Yes	No	Yes	Yes
1014	com.gameloft.android.ANMP.GloftA3HM	Free	Brothers in Arms® 3	Yes	No	Yes	No
1015	net.pixelsquad.ccmafiawars	Free	Crime Coast: Mafia Wars	Yes	No	Yes	N/A
1016	com.webprancer.google.garfieldescapelite	Free	Garfields Escape	Yes	No	Yes	N/A
1017	com.fullfat.android.flickgol	Paid	Flick Golf!	No	No	Yes	Yes
1018	com.bigkraken.thelastwar	Free	Deadwalk: The Last War	No	No	Yes	No
1019	com.bungieinc.bungiemobik	Free	Destiny	No	Yes	Yes	Yes
1020	com.shinyshoe.matchquesttango	Free	Jewel Raiders for TANGO	Yes	No	Yes	N/A
1021	de.lotumapps.truefalsequiz.us	Free	True or False: Quiz Battle	Yes	No	Yes	No
1022	com.magmic.phase10	Paid	Phase 10	No	No	Yes	Yes
1023	com.boombit.RunningCircles	Free	Running Circles	Yes	No	Yes	N/A
1024	com.boombit.BirdsClimbingGame	Free	Bird Climb	Yes	No	Yes	Yes
1025	air.com.pacific.enterprises.fruitland	Free	Fruit Land – match3 adventure	Yes	No	Yes	No
1026	com.trueaxis.trueskate	Paid	True Skate	No	No	Yes	Yes
1027	com.turborilla.MadSkillsMotocross2	Free	Mad Skills Motocross 2	No	No	Yes	Yes
1028	com.fruitsplay.casino	Free	Casino Slots	Yes	No	Yes	N/A

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1029	au.com.shiftyjelly.pocketcasts	Paid	Pocket Casts	Yes	No	No	Yes
1030	com.dg.puzzlebrothers.mahjong.countrycorner	Free	Hidden Mahjong: Country Corner	Yes	No	Yes	N/A
1031	com.com2us.soccerspirits.normal2.freefull.google.global.android.common	Free	Soccer Spirits	No	No	Yes	Yes
1032	com.productmadness.hovmobile	Free	Heart of Vegas - Casino Slots	Yes	No	Yes	Yes
1033	com.justwink	Free	justWink Greeting Cards	Yes	Yes	No	Yes
1034	com.stac.rts	Free	Empire Siege	No	No	Yes	N/A
1035	com.playfirst.playground.dinerdash	Free	Diner Dash Classic	No	No	Yes	Yes
1036	com.perblue.greedforglory.sh	Free	Greed for Glory: Savage Heroes	No	No	Yes	N/A
1037	com.nickonline.android.nickapp	Free	Nick	No	Yes	No	Yes
1038	com.mobage.www.1952.Pirate Bash Android	Free	Pirate Bash	No	No	Yes	No
1039	com.djinnworks.StickmanFootball	Free	Stickman Football	Yes	No	Yes	No
1040	com.enterfly.penguin_gloplu	Free	Air Penguin®	No	No	Yes	N/A
1041	com.superluckycasino.doubleup.slots.vegas.android.free	Free	DoubleUp: Casino Slot Machines	Yes	No	Yes	No
1042	com.coa.spartacus	Free	Gladiators: Call of Arena	Yes	No	Yes	Yes
1043	air.com.flowplay.FringoMobile	Free	Fringo Bingo & Slots Together	Yes	No	Yes	N/A
1044	com.glu.samuzombie	Free	SAMURAI vs ZOMBIES DEFENSE	No	No	Yes	No
1045	air.com.differencegames.hiddenscenes.mysteryman.sionfree	Free	Hidden Scenes Mystery Mansion	No	No	Yes	No
1046	com.ea.monopolymillionaire na	Paid	MONOPOLY Millionaire	No	Yes	Yes	Yes
1047	com.flambestudios.picplaypost	Free	PicPlayPost - Video Collage	No	No	No	Yes
1048	air.com.differencegames.hoherecomesthebridefree	Free	Hidden Object - The Bride	Yes	No	Yes	N/A
1049	com.hoththeadgames.google.free.scarface	Free	Scarface	No	No	Yes	N/A
1050	com.secretexit.turbodismount	Free	Turbo Dismount™	No	No	Yes	Yes
1051	com.huuuge.bestslots	Free	Free Slot Games™	Yes	No	Yes	N/A
1052	air.com.ea.game.monopolyslots na	Free	MONOPOLY Slots	Yes	Yes	Yes	No
1053	miami.music.play	Free	My Mixtape Music	Yes	No	No	Yes
1054	com.gamevil.steelcommanders.globalfree	Free	Steel Commanders	No	No	Yes	N/A
1055	com.netease_na.nmd2	Free	Speedy Ninja	No	No	Yes	No
1056	com.tamalaki.hogblackstonemysteries	Free	Hidden Object Blackstone	Yes	No	Yes	N/A
1057	air.com.sublinet.witchyworld	Free	Witchy World	No	No	Yes	No
1058	com.lilwayne.slots.slots.android	Free	LIL WAYNE SLOTS: Slot Machines	Yes	No	Yes	N/A
1059	com.scopely.wordwars	Free	Wordly - the Word Game	No	No	Yes	N/A
1060	br.com.tapps.cowevolution	Free	Cow Evolution - Clicker Game	Yes	No	Yes	N/A
1061	jp.co.hit_point.nekoatsume	Free	Neko Atsume: Kitty Collector	No	No	Yes	No
1062	com.forgame.warshipwii	Free	Warship WWII	Yes	No	Yes	N/A
1063	hwolask.sexy.girls.puzzle	Free	Sexy girls puzzle games	Yes	No	No	N/A
1064	com.mavenhut.solitaire.tournaments3	Free	Tournaments 3 Solitaire	Yes	No	Yes	N/A
1065	air.com.differencegames.hospringcleaningfree	Free	Hidden Object: Spring Cleaning	Yes	No	Yes	N/A
1066	com.zynga.draw2.googleplay.free	Free	Art With Friends Free	No	Yes	Yes	Yes
1067	com.creativemobile.snowboard run	Free	Snowboard Run	No	No	Yes	N/A
1068	com.huuuge.samurai	Free	Free Slots™	Yes	No	Yes	N/A
1069	com.cleanmaster.security.heartbleed	Free	Heartbleed Scanner	No	No	No	N/A
1070	com.hoteltonight.android.prod	Free	Hotel Tonight	Yes	Yes	No	Yes
1071	com.firestudio.movietube	Free	MovieTube: Free Full Movies	Yes	Yes	No	N/A
1072	com.dg.puzzlebrothers.dragons	Free	Dragons Match - Actually Free!	No	No	Yes	N/A
1073	com.nbcuni.nbc.thevoice	Free	The Voice Official App	No	Yes	No	No
1074	com.plarium.playslots	Free	PlaySlots – freeslots	Yes	No	Yes	Yes
1075	sts.al	Free	Arcane Legends Action RPG	No	No	Yes	No
1076	udk.android.reader	Paid	ezPDF Reader PDF Annotate Form	Yes	No	No	Yes
1077	com.Seriously.BestFiends	Free	Best Fiends - Puzzle Adventure	No	No	Yes	Yes
1078	com.backflipstudios.njdash	Free	NinJump Dash: Multiplayer Race	Yes	No	Yes	No
1079	com.herocraft.game.wonderwood	Free	Wonder Wood	Yes	No	Yes	No
1080	com.kongregate.mobile.adventurecapitalist.google	Free	AdVenture Capitalist	No	No	Yes	No
1081	com.gamevil.lomonline.globa	Free	Legend of Master Online	No	No	Yes	N/A
1082	air.com.tamalaki.maryknots.free	Free	Hidden Object - Garden Wedding	Yes	No	Yes	N/A
1083	com.plexapp.android	Paid	Plex for Android	Yes	Yes	No	Yes
1084	com.ibm.events.android.masters	Free	The Masters Golf Tournament	No	No	No	Yes
1085	com.sanrio.google.hellokitty.carnival	Free	Hello Kitty Carnival!	Yes	Yes	Yes	N/A
1086	com.g6677.android.cdctor	Free	Celebrity Doctor - Free games	No	No	Yes	Yes
1087	me.tango.pwar	Free	Pharaohs War by TANGO	No	No	Yes	N/A
1088	au.com.oddgames.monstertruckdestruction	Free	Monster Truck Destruction™	Yes	No	Yes	Yes
1089	com.outfit7.tombubbles	Free	Talking Tom Bubble Shooter	Yes	No	Yes	No
1090	com.gameinsight.crimestory	Free	Crime Story	No	No	Yes	N/A
1091	com.bigbluebubble.finderskeep	Free	Finders Keep	No	No	Yes	N/A
1092	com.teamlava.bakerystory5	Free	Bakery Story: Valentine's Day	No	No	No	N/A
1093	com.remedy.DeathRallyFREE	Free	Death Rally	No	No	Yes	Yes
1094	ata.stingray	Free	Perfect Drift	No	No	No	N/A
1095	com.com2us.rooms.normal.freefull.google.global.android.common	Free	The Mansion: A Puzzle of Rooms	No	No	Yes	N/A
1096	com.chillingo.ironforce.android.ajagplay	Free	Iron Force	No	Yes	Yes	Yes
1097	com.tamalaki.gogii.howhisperedtales	Free	Hidden Object Mirror Mysteries	Yes	No	Yes	N/A
1098	uk.co.aifactory.chessfree	Free	Chess Free	Yes	No	Yes	N/A
1099	com.mobinlife.citydora	Free	City Domination - mafia gangs	No	No	Yes	Yes

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1100	com.gamevil.dynastywarlord.global	Free	Dynasty Warlord	No	No	Yes	N/A
1101	com.xyrality.scarytribes.googleplay	Free	Scary Tribes	No	No	Yes	N/A
1102	air.hamsterballs	Free	Hamster Balls: Bubble Shooter	Yes	No	Yes	N/A
1103	com.lookout.heartbleeddetector	Free	Heartbleed Security Scanner	No	No	No	N/A
1104	com.mobage.ww.a926.Transformers Android	Free	Transformers Legends	No	No	Yes	No
1105	com.etermax.preguntados.pro	Paid	Trivia Crack (Ad free)	Yes	No	Yes	No
1106	com.teamlava.castlestory	Free	Castle Story™	No	No	Yes	Yes
1107	com.gamelion.ms2	Free	Monster Shooter 2	No	No	Yes	No
1108	com.xyrality.cwxmas.googleplay	Free	Celtic Tribes - X-Mas Edition	No	No	Yes	N/A
1109	com.craneballs.OverkillMafia	Free	Overkill Mafia	No	No	Yes	No
1110	com.nexonm.orcs	Free	Heroes of War: Orcs vs Knights	No	No	Yes	N/A
1111	com.xyrality.lordsofblood.googleplay	Free	Lords of Blood - Vampire RPG	No	No	Yes	N/A
1112	com.ustwo.monumentvalley	Paid	Monument Valley	Yes	No	Yes	Yes
1113	com.dg.puzzlebrothers.mahjong.treehouse	Free	Hidden Mahjong: Treehouse	Yes	No	Yes	N/A
1114	com.spryfox.tripletown	Free	Triple Town	No	No	Yes	Yes
1115	com.actoz.won	Free	Wonder5 Masters	No	No	Yes	No
1116	com.maoxiaoyu.driveintheline	Free	Drive In The Line	Yes	No	Yes	N/A
1117	com.cmappmgr.pinaotilesgame	Free	Piano Tiles	Yes	No	Yes	N/A
1118	com.rnts.elgardus	Free	ELGARD - MORPG	No	No	Yes	No
1119	com.playstation.mobilemessenger	Free	PlayStation®Messages	No	Yes	No	No
1120	com.teamlava.bakerystory30	Free	Bakery Story: Fall Treats	No	No	No	N/A
1121	com.normafosterdev.bubbleshoooter	Free	Bubble Shooter Classic	Yes	No	Yes	N/A
1122	com.playrix.township	Free	Township	Yes	No	Yes	Yes
1123	com.teamlava.bakerystory8	Free	Bakery Story: Christmas	No	No	No	Yes
1124	air.com.differencegames.hoautumnharvestfree	Free	Hidden Object - Autumn Harvest	Yes	No	Yes	N/A
1125	com.gsn.grandcasino	Free	GSN Grand Casino - FREE Slots	Yes	Yes	Yes	No
1126	com.rubyseven.timequest	Free	TimeQuest Slots   FREE GAMES	Yes	No	Yes	N/A
1127	com.umbrella.boomdots	Free	Boom Dots	No	No	Yes	No
1128	com.cervomedia.spf	Free	Slots - Pharaohs Fire	Yes	No	Yes	No
1129	com.kongregate.mobile.tinydicedungeon.google	Free	Tiny Dice Dungeon	No	No	Yes	Yes
1130	com.xyrality.crazytribes.googleplay	Free	Crazy Tribes - War MMOG	No	No	Yes	N/A
1131	com.sec.chaton	Free	ChatON	Yes	Yes	No	Yes
1132	com.hitcents.battlepillars	Free	Battlepillars Multiplayer PVP	Yes	No	Yes	Yes
1133	com.geekbeach.spacegame	Free	Colony Attack	No	No	Yes	No
1134	com.topface.spark.bst	Free	Spark - Jumpstart your Heart	No	No	No	N/A
1135	com.nwmodehp.WhiteTile	Free	White Tile 4	Yes	No	Yes	N/A
1136	com.bonfiremedia.dots2	Free	Loops Legends - two dots game	Yes	No	Yes	N/A
1137	com.wb.goog.batman.brawler2013	Free	Batman Arkham Origins	No	Yes	Yes	Yes
1138	com.tamalaki.puzrelicmatch	Free	Relic Match Lost Jewel Mystery	Yes	No	Yes	N/A
1139	com.huuge.winter	Free	Slot Games	Yes	No	Yes	N/A
1140	com.camelgames.fantasyland	Free	Little Empire	No	No	Yes	No
1141	com.zqgame.ec.en.androidgp	Free	Brave Brigade: Hero Summoner	No	No	Yes	N/A
1142	com.noodlecake.happyjump	Free	Happy Jump	No	No	Yes	No
1143	com.tamalaki.gogii.hiddenobjectshow	Free	Hidden Object Show	Yes	No	Yes	N/A
1144	com.animoca.google.starGirlHalloween	Free	Star Girl: Halloween	Yes	No	Yes	N/A
1145	com.hyperkani.stuntcarchallenge	Free	Stunt Car Challenge	No	No	Yes	No
1146	com.zentertain.emoji.keyboard	Free	Emoji Keyboard: Theme,Emoticon	Yes	No	No	N/A
1147	com.droidhen.game.dinosaur	Free	Dinosaur War	No	No	Yes	N/A
1148	fi.mikrotie.treemaker	Free	Treemaker	No	No	Yes	Yes
1149	com.kabam.creature.android	Free	Creature Academy	No	Yes	Yes	N/A
1150	com.mobage.ww.a1544.gi joe Android	Free	G.I. JOE: BATTLEGROUND	No	No	Yes	No
1151	com.gamelion.aiw	Free	War Games - Allies in War	No	No	Yes	N/A
1152	com.lucktastic.scratch	Free	Lucktastic	No	No	No	No
1153	com.fireflygames.dungeoncrash	Free	Dungeon Crash	No	No	Yes	No
1154	com.outplayentertainment.mysterymatch	Free	Mystery Match	Yes	No	Yes	N/A
1155	com.quvideo.xiaoying	Free	VivaVideo: Free Video Editor	Yes	No	No	No
1156	air.com.A5thplanetgames.pets	Free	Curio Quest	No	No	Yes	No
1157	air.com.fgl.origamingmedia.rorysrestaurantwinterush	Free	Rorys Restaurant Winter Rush	No	No	Yes	N/A
1158	com.appspot.swisscodemonkeys.warp	Free	Funny Face Effects	Yes	No	No	N/A
1159	com.teamlava.bakerystory19	Free	Bakery Story: St Patrick's Day	No	No	No	N/A
1160	com.com2us.towerdefense.normal.freefull.google.g	Free	Tower Defense®	Yes	No	Yes	Yes
1161	com.huuge.jomhd	Free	Slots - Casino Slot Machines	Yes	No	Yes	N/A
1162	com.kabam.eternal.android	Free	Eternal Uprising: End of Days	No	Yes	Yes	N/A
1163	com.teamlava.bakerystory7	Free	Bakery Story: Halloween	No	No	No	Yes
1164	net.andromedagames.soulheart	Free	Soul Taker: Face of Fatal Blow	No	No	Yes	No
1165	mobilehead.android.pp	Free	Pimple Popper	No	No	Yes	Yes
1166	com.dmscc.ssc	Free	Marble Mania	Yes	No	Yes	N/A
1167	la.droid.qr	Free	QR Droid Code Scanner	Yes	No	No	N/A
1168	uk.co.nickfines.RealCalc	Free	RealCalc Scientific Calculator	Yes	No	No	N/A
1169	com.cervomedia.spw	Free	Slots - Pharaohs Way	Yes	No	Yes	Yes
1170	com.glu.modwarsniper	Free	FRONTLINE COMMANDO	No	No	Yes	Yes
1171	com.autodesk.autocadws	Free	AutoCAD 360	No	Yes	No	N/A
1172	com.mindstormstudios.coinparty.google	Free	Coin Party: Carnival Pusher	Yes	No	Yes	N/A
1173	com.zynga.scramble.paid	Paid	Word Streak With Friends	Yes	Yes	No	Yes

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1174	com.creativemobile.zombieharvest	Free	Zombie Harvest	No	No	Yes	N/A
1175	com.att.mobiletransfer	Free	AT&T Mobile Transfer	Yes	Yes	No	Yes
1176	com.teamlava.dragon28	Free	Dragon Story: Rainbow Edition	No	No	No	N/A
1177	com.ember.stainz	Free	Empire Z	No	No	Yes	No
1178	com.animoca.google.starGirlHalloween14	Free	Star Girl: Spooky Styles	Yes	No	Yes	No
1179	com.disney.wreckitralph	Paid	Wreck-it Ralph	No	Yes	Yes	Yes
1180	com.oasgames.android.mloen	Free	Legend online (Pocket Edition)	No	No	Yes	Yes
1181	com.teamlava.bakerystory32	Free	Bakery Story: Christmas	No	No	Yes	Yes
1182	com.dg.puzzlebrothers.mahjong.halloween32scenes	Free	Hidden Mahjong: Grimm Tales	Yes	No	Yes	N/A
1183	com.kimberlydev.sudokugame	Free	Sudoku Master	Yes	No	Yes	N/A
1184	air.funfactory.ambush	Free	Ambush! - Tower Offense	No	No	Yes	N/A
1185	com.nelphy.android.heavenhell	Free	HeavenHell	No	No	Yes	Yes
1186	jp.gree.flopfu	Free	Flop Fu - Physics Fighter	No	Yes	Yes	N/A
1187	com.chi.CarKing	Free	Crazy Parking Car King 3D	No	No	Yes	No
1188	com.prettypet.google.oldmacdonaldfarr	Free	Old MacDonald Pet Farm	No	No	Yes	N/A
1189	com.freshgames.upictwo	Free	I Love Pop Culture	No	No	Yes	N/A
1190	com.intuit.mobile.mytaxrefunc	Free	MyTaxRefund by TurboTax – Free	No	Yes	No	Yes
1191	com.perblue.greedforglory.at	Free	Greed for Glory: Age of Titans	No	No	Yes	N/A
1192	com.mindstormstudios.warinc.google	Free	Nations Fury	No	No	Yes	N/A
1193	com.spacegame.solitaireplus	Free	Solitaire+	Yes	No	No	N/A
1194	com.glu.dd2	Free	FRONTLINE COMMANDO: WW2	No	No	Yes	Yes
1195	com.ngmoco.pocketgod	Paid	Pocket God™	Yes	No	Yes	Yes
1196	com.huuuge.slots.pharaohs	Free	Pharaoh™ Slot Machines	Yes	No	Yes	N/A
1197	com.listia.Listia	Free	Listia - Get Free Stuff & Sell	No	No	No	Yes
1198	air.com.disney.GnomeVillage.GooglePlay	Free	Gnome Village	No	Yes	No	Yes
1199	com.tunewiki.lyricplayer.android	Free	TuneWiki - Lyrics for Music	Yes	No	No	Yes
1200	tv.periscope.android	Free	Periscope	No	Yes	No	Yes
1201	sts.ab	Free	Arcane Battlegrounds	No	No	Yes	No
1202	air.com.tamalaki.castlewonders2.free	Free	Hidden Object Castle Wonders 2	Yes	No	Yes	N/A
1203	air.com.ifree.cardEN	Free	Lies Of Astaroth	Yes	No	Yes	Yes
1204	com.rovio.amazingalex.tria	Free	Amazing Alex Free	Yes	No	Yes	No
1205	com.parkingschool.free	Free	Parking School	No	No	Yes	No
1206	com.aurum.google.starpoker	Free	Star Poker: Texas Holdem	Yes	No	Yes	N/A
1207	com.perblue.greedforglory.fc	Free	Greed for Glory: Final Dawn	No	No	Yes	N/A
1208	com.zeptolab.thieves.google	Free	King of Thieves	Yes	No	Yes	Yes
1209	com.london2012.results	Free	London 2012 Results App	Yes	Yes	No	N/A
1210	com.tunewiki.games.android.lyriclegend	Free	LYRIC LEGEND 2 MUSIC GAME	No	No	No	N/A
1211	wp.wattpad	Free	Wattpad - Free Books & Stories	Yes	No	No	Yes
1212	com.infiapps.unicornsots	Free	Unicorn Slots Free Slot Game	Yes	No	Yes	N/A
1213	me.tango.qbattle	Free	Quiz Battle for TANGO	No	No	Yes	N/A
1214	sts.bd	Free	Battle Dragons:Strategy Game	No	No	Yes	N/A
1215	com.hotheadgames.google.free.bigleaguebasebal	Free	MLB Big Stars Baseball	No	No	Yes	No
1216	com.movile.playkids	Free	PlayKids - Cartoons for Kids	No	No	No	Yes
1217	com.happymage.google.monstergemislan	Free	Pet Monster Gem:Puzzle Shooter	Yes	No	Yes	N/A
1218	com.innovativegames.knockdowr	Free	Knock Down	Yes	No	Yes	N/A
1219	com.fgl.gamesinflames.wordwonder	Free	Word Wonders Revolution	No	No	Yes	N/A
1220	com.smilerlee.jewels	Free	Jewels Saga	Yes	No	Yes	N/A
1221	com.duolingo	Free	Duolingo: Learn Languages Free	Yes	Yes	No	Yes
1222	com.hapogames.guessword	Free	Guess Word	Yes	No	Yes	N/A
1223	com.beardedEye.baamsAway	Free	Baams Away!	No	No	Yes	No
1224	com.gamevil.magictable.globa	Free	Chef de Bubble	No	No	Yes	N/A
1225	com.play.slot	Free	Slot Casino - Slot Machines	Yes	No	Yes	N/A
1226	com.prgames.texasoldem3.livepoker	Free	Live Poker - Texas Holdem	Yes	No	Yes	N/A
1227	com.avalliance.jumpou	Free	Jump Out! ®	Yes	No	No	N/A
1228	com.funfactory.tanks	Free	War of Tanks: Clans	No	No	Yes	N/A
1229	com.yobonja.blastmonkeysfree	Free	Blast Monkeys	No	No	Yes	Yes
1230	com.safe.lock	Free	Anti-Theft Alarm	Yes	No	No	N/A
1231	com.randomlogicgames.guessthe80s	Free	Guess The 80s	No	No	Yes	N/A
1232	com.gamevil.castlefantasia2.android.google.global.normal	Free	Castle Fantasia	No	No	Yes	N/A
1233	com.protrade.sportacular	Free	Yahoo Sports	No	Yes	No	Yes
1234	com.cyworld.camera	Free	Cymera - Photo Editor, Collage	Yes	Yes	No	No
1235	com.pikpok.bbl.play	Free	Rival Stars Basketball	No	No	Yes	No
1236	com.creativemobile.n2o	Free	Nitro Nation BETA	Yes	No	No	N/A
1237	com.topfungames.deathroom	Free	Stickman Death Room	Yes	No	Yes	N/A
1238	com.animoca.google.beautyIdol	Free	Beauty Idol	Yes	No	Yes	N/A
1239	com.fgl.cartitans.dragracerush	Free	Drag Race: Rush	Yes	No	Yes	N/A
1240	jp.gree.android.pf.greeapp53188	Free	Treasure Quest (RPG)	No	Yes	No	N/A
1241	com.RocketGames.TripleDouble	Free	Triple Double Slots Free Slots	Yes	No	Yes	No
1242	com.xyrality.lkclient	Free	Lords & Knights - Strategy MMO	No	No	Yes	Yes
1243	com.creatstudio.mushroomwars	Free	Mushroom Wars	No	No	Yes	Yes
1244	com.glu.baseball15	Free	TAP SPORTS BASEBALL 2015	No	No	Yes	No
1245	air.com.idlegaming.slots	Free	Slots of Fun Free Casino Game	Yes	No	Yes	N/A
1246	com.zynga.empire2	Free	Empires and Allies	No	Yes	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1247	com.gamevil.elunesaga.android.google.global.nor mal	Free	Elune Saga	No	No	Yes	N/A
1248	com.lego.ninjabo.rebooted	Free	LEGO® Ninjabo REBOOTED	No	Yes	Yes	Yes
1249	com.xyrality.lkxmas.googleplay	Free	Lords & Knights X-Mas Edition	No	No	Yes	N/A
1250	com.sanriodigital.android.HelloKittyBeautySalonS easons	Free	Hello Kitty Christmas	Yes	Yes	Yes	N/A
1251	com.eRepublikLabs.AgeOfLords	Free	Age of Lords: Legends & Rebels	No	No	Yes	No
1252	com.industrymagic.crazyjump	Free	Crazy Jump	Yes	No	No	N/A
1253	com.gamehivecorp.superbattleracers	Free	Super Battle Racers	No	No	Yes	No
1254	com.animoca.google.astroboydash	Free	Astro Boy Dash	No	No	Yes	N/A
1255	com.sparklingsociety.battleempieromanwar	Free	Battle Empire: Roman Wars	Yes	No	Yes	No
1256	com.animoca.google.ultramanC	Free	Ultraman Galaxy	No	No	Yes	N/A
1257	com.gamelion.bhp	Free	Slots - Beverly Hills Pawn TV	Yes	No	Yes	N/A
1258	com.xyrality.celtictribes.googleplay	Free	Celtic Tribes - Building MMOG	No	No	Yes	Yes
1259	org.jw.jwlibrary.mobile	Free	JW Library	Yes	Yes	No	No
1260	com.facebook.home	Free	Home	No	Yes	No	N/A
1261	com.moarbile.slotworld	Free	Slotworld - Slot Machines	Yes	No	No	N/A
1262	com.black9t.jewels	Free	Jewels Mania	Yes	No	No	N/A
1263	com.xyrality.panzerwars.googleplay	Free	PanzerWars	No	No	Yes	N/A
1264	com.karmic.brandiac	Free	Brandmania: Hidden Objects	Yes	No	No	Yes
1265	com.namcobandaigames.tamagotchilife	Free	Tamagotchi L.i.f.e.	No	Yes	No	No
1266	com.nbcuni.universal.talkingted	Free	Talking Ted LITE	No	Yes	No	Yes
1267	air.com.gamesys.luckygemcasinc	Free	Lucky Gem Casino - FREE Slots	Yes	No	Yes	N/A
1268	com.camelgames.tales	Free	Battle Tales	No	No	Yes	N/A
1269	com.gameforfun.jewels	Free	Jewels	Yes	No	Yes	N/A
1270	com.us.idlecrusade	Free	Idle Crusade	No	No	Yes	N/A
1271	com.noodlecake.ssg	Free	Super Stickman Golf	No	No	Yes	Yes
1272	frobenius.remote.control.tv	Free	Remote Control for TV	Yes	No	No	N/A
1273	com.pinnatta.android	Free	Pinnatta-Interactive e-Cards	No	No	No	Yes
1274	air.com.joyfort.DeadZoneDeluxe	Free	Dead Zone:Zombie War D-e-l-uxe	Yes	No	Yes	N/A
1275	com.enjoyteam.jewelslines	Free	Jewels Lines	Yes	No	Yes	N/A
1276	com.teamlava.bakerystory17	Free	Bakery Story: Thanksgiving	No	No	No	N/A
1277	com.FireproofStudios.TheRoom2	Paid	The Room Two	Yes	No	Yes	Yes
1278	com.redrobot.tanks	Free	Friendly Fire!	No	No	Yes	No
1279	com.animocacollective.google.superstarFashionGir	Free	Superstar Fashion Girl	Yes	No	Yes	N/A
1280	com.thirdrock.fivemiles	Free	5miles: Local. Buy. Sell	Yes	No	No	No
1281	com.telltalegames.walkingdead100	Free	The Walking Dead: Season One	No	Yes	Yes	Yes
1282	com.square_enix.android.googleplay.guardiancross	Free	Guardian Cross	No	Yes	Yes	Yes
1283	com.endomondo.android.pro	Paid	Endomondo Sports Tracker PRO	Yes	No	No	Yes
1284	com.intuit.instantreturr	Free	TurboTax SnapTax	No	Yes	No	Yes
1285	com.facebook.pages.app	Free	Facebook Pages Manager	No	Yes	No	Yes
1286	com.teslacoilsw.widgetlocker	Paid	WidgetLocker Lockscreen	Yes	No	No	N/A
1287	com.hg.aotl	Free	Aces of the Luftwaffe	Yes	No	Yes	Yes
1288	com.zentertain.photocollage2	Free	Photo Collage Maker	Yes	No	No	N/A
1289	com.godzilab.happystreet	Free	Happy Street	No	No	Yes	Yes
1290	com.perblue.greedforglory.kw	Free	Greed for Glory: Kingdom Wars	No	No	Yes	N/A
1291	com.sharkparty.slots5	Free	Slots™: Valentines Edition	Yes	No	No	No
1292	air.zw.dungeons.of.evilibrium	Free	Dungeons of Evilbrium RPC	No	No	Yes	Yes
1293	com.xgg.gten	Free	Haunted Empire-Wake of Death	No	No	Yes	N/A
1294	org.iaendi.mvp	Free	Underworld Syndicate	No	No	Yes	N/A
1295	twooer.com.shakethatbooty	Free	Shake That Booty	Yes	No	No	N/A
1296	com.arcgames.mobile.doi.ad	Free	Dawn of the Immortals MMO	No	No	Yes	N/A
1297	com.mobage.www.a1431.Puzzles Android	Free	Monster Match	No	No	Yes	N/A
1298	air.clearvision12plus	Free	Clear Vision (12+)	No	No	No	Yes
1299	com.etermax.kingdoms	Free	Trivia Crack Kingdoms	Yes	No	Yes	No
1300	com.ea.game.monopolybingo na	Free	MONOPOLY Bingo	Yes	Yes	Yes	No
1301	com.prgames.texasholdem.livepoker.season	Free	Texas Holdem - Live Poker S	Yes	No	Yes	N/A
1302	com.glitchgames.sudokuisland	Free	Sudoku Island	Yes	No	Yes	N/A
1303	com.fiftycubes.SpacePiratesIII	Free	Space Pirates: Final Battle	Yes	No	Yes	N/A
1304	air.com.nikaent.fm.intl	Free	Fairy Mix	No	No	Yes	No
1305	com.gameshell.busparking3d	Free	Bus Parking 3D	Yes	No	Yes	N/A
1306	com.ea.game.pgatourgolf15 row	Free	King of the Course Golf	No	Yes	Yes	No
1307	com.feelingtouch.slotgame2	Free	Jackpot Slots Club	Yes	No	Yes	N/A
1308	ata.squid.meego	Free	The Meego	No	No	Yes	N/A
1309	com.madfingergames.shadowgur	Paid	SHADOWGUN	No	No	Yes	Yes
1310	com.redbull.airrace	Free	Red Bull Air Race The Game	No	Yes	Yes	No
1311	com.gadgetcrafts.gt5	Free	Glass Tower	No	No	Yes	Yes
1312	com.infinitypocket.flickhomerur	Free	Flick Home Run! baseball game	No	No	Yes	Yes
1313	casinogamestudios.dolphincasinc	Free	Gold Dolphin Casino Slots™	Yes	No	Yes	N/A
1314	com.xtpl.kingsAndCannon	Free	Kings & Cannon	Yes	No	Yes	N/A
1315	com.creditkarma.mobile	Free	Credit Karma	No	Yes	No	Yes
1316	com.dworks.riddlesamazonp	Free	Unriddle Riddle	Yes	No	Yes	N/A
1317	com.pikpok.fk2.play	Free	Flick Kick Football Legends	No	No	Yes	No
1318	com.accuweather.paid.android	Paid	AccuWeather Platinum	Yes	Yes	No	Yes
1319	com.animoca.google.prettyPetJewelTown	Free	Pretty Pet Jewel Town	Yes	No	Yes	N/A



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1320	com.Alper.Manuganu	Free	Manuganu	Yes	No	Yes	No
1321	com.moose.shopville	Free	Shopkins: Welcome to Shopville	No	No	Yes	Yes
1322	com.sketchbook	Paid	SketchBook Mobile	No	Yes	No	Yes
1323	com.sinctimes.zombiewarv2	Free	Crazy Zombies	Yes	No	Yes	N/A
1324	com.ziplinegames.wolftoss	Free	Wolf Toss	No	No	Yes	Yes
1325	com.teamlava.nightclubstory	Free	Nightclub Story™	No	No	Yes	N/A
1326	com.gamebasics.osm	Free	Online Soccer Manager (OSM)	No	No	Yes	Yes
1327	air.com.differencegames.hiddenscenes.countrycorn erfree	Free	Hidden Scenes - Country Corner	No	No	Yes	N/A
1328	com.dena.west.MarvelArena	Free	Marvel Mighty Heroes	No	No	Yes	No
1329	com.outplayentertainment.aliencreeper	Free	Alien Creeps TD	No	No	Yes	N/A
1330	com.activision.callofduty.mobile	Free	Call of Duty®	No	Yes	No	No
1331	com.rayark.implosion	Free	Implosion - Never Lose Hope	No	No	Yes	Yes
1332	com.zqgame.fr.en.androidgp	Free	Celestia - Broken Sky	No	No	Yes	N/A
1333	com.sportstracklive.stopwatch	Free	Stopwatch & Timer	Yes	No	No	N/A
1334	com.melesta.toydefense3free	Free	Toy Defense 3: Fantasy Free	Yes	No	Yes	N/A
1335	com.tapcash.tapcash	Free	Tap Cash Rewards - Make Money	Yes	No	No	N/A
1336	com.pixowl.thesandbox.android	Free	The Sandbox: Craft Play Share	No	No	Yes	Yes
1337	org.oasgames.loen	Free	Legend Online	No	No	Yes	Yes
1338	casinogamestudios.farmslots	Free	Farm Slots™ - FREE Casino GAME	Yes	No	Yes	N/A
1339	com.gameinsight.airpor	Free	Airport City	Yes	No	Yes	No
1340	com.invictus.daytonarush	Free	Daytona Rush	No	No	Yes	Yes
1341	com.tbig.playerpro	Paid	PlayerPro Music Player	Yes	No	No	N/A
1342	net.apex_designs.payback2	Free	Payback 2 - The Battle Sandbox	No	No	Yes	Yes
1343	com.com2us.monkeybattle.normal.freefull.google. global.android.common	Free	Swing Shot HD	No	No	Yes	Yes
1344	com.sharkparty.slots	Free	Slots™	Yes	No	Yes	Yes
1345	com.gameloft.android.ANMP.GloftCPHM	Free	Captain America: TWS	Yes	No	Yes	No
1346	com.juiceboxgames.honorbound	Free	HonorBound (RPG)	No	No	Yes	No
1347	com.devicemagic.androidx.forms	Free	Forms	No	No	No	Yes
1348	com.letang.gamel110.en	Free	Super Metal Slug	Yes	No	No	N/A
1349	com.creativemobile.tanks	Free	War of Tanks	No	No	Yes	N/A
1350	com.byscout.whitetiles4And	Free	White Tiles 4	Yes	No	No	N/A
1351	com.microsoft.office.powerpoint	Free	Microsoft PowerPoint	Yes	Yes	No	Yes
1352	com.bigfishgames.dungeonbossf2pgoogle	Free	Dungeon Boss	No	No	Yes	Yes
1353	com.us.ragnarok	Free	Ragnarok : Path of Heroes	No	No	Yes	Yes
1354	com.teamlava.bakerystory28	Free	Bakery Story: Summer Picnic	No	No	No	N/A
1355	com.silvertree.cordysky	Free	Cordy Sky	No	No	Yes	No
1356	com.halfbrick.monsterdash	Free	Monster Dash	No	No	Yes	Yes
1357	com.droidhen.fish	Free	Fishing Diary	Yes	No	Yes	N/A
1358	com.magmamobile.game.BubbleBlastValentin	Free	Bubble Blast Valentine	Yes	No	Yes	No
1359	com.ai.type.android	Free	ai.type Free Emoji Keyboard	Yes	No	No	N/A
1360	com.perblue.greedforglory.wc	Free	Greed for Glory: Wild Conquest	No	No	Yes	N/A
1361	com.funfactory.pinball	Free	Pinball Fantasy HD	Yes	No	Yes	N/A
1362	com.fatsecret.android	Free	Calorie Counter by FatSecret	Yes	No	No	Yes
1363	com.webprancer.google.garfieldpethospital	Free	Garfields Pet Hospital	Yes	No	Yes	N/A
1364	com.anniegame.mountainmotc	Free	Mountain Moto- Racing Moto	Yes	No	No	N/A
1365	jp.gree.android.pf.greeapp53185	Free	Pirates Age - Card Battle Game	No	Yes	No	N/A
1366	air.com.differencegames.honaturemomsfree	Free	Hidden Object - Nature Moms	Yes	No	Yes	N/A
1367	com.fw.appshare	Free	ShareCloud - Share By 1-Click	No	No	No	N/A
1368	com.pocketgames.templeran	Free	Temple Ran	Yes	No	No	N/A
1369	com.nekki.shadowfight	Free	Shadow Fight 2	Yes	No	Yes	No
1370	com.king2.english.us	Free	KING:THE MMORPG	No	No	Yes	N/A
1371	com.ketchapp.makethemfall	Free	Make Them Fall	Yes	No	Yes	No
1372	com.hillsmobile.guesstheword	Free	Guess The Word - 4 Pics 1 Word	Yes	No	No	N/A
1373	com.marvel.comics	Free	Marvel Comics	No	Yes	No	Yes
1374	com.ldw.virtualvillagers	Free	Virtual Villagers: Origins	No	No	Yes	N/A
1375	com.jellyblast.cmc	Free	Jelly Blast—Candy Trip	No	No	Yes	N/A
1376	com.everydayplay.vikingsgonewild	Free	Vikings Gone Wild	No	No	Yes	Yes
1377	air.com.differencegames.marionettesfree	Free	Hidden Object - Marionettes	Yes	No	Yes	N/A
1378	com.microsoft.office.excel	Free	Microsoft Excel	Yes	Yes	No	Yes
1379	com.wwe.universe	Free	WWE	No	Yes	No	No
1380	com.gamegarden.fk	Free	Fairy Kingdom: World of Magic	Yes	No	Yes	N/A
1381	com.Marianna.HarvestSlotsHD	Free	Harvest Slots HD Best Casino	Yes	No	Yes	N/A
1382	com.aemobile.games.casino	Free	Luckyo Casino and Free Slots	Yes	No	Yes	N/A
1383	com.mobage.www.a1917.Hell Marys Android	Free	Hell Marys	No	No	Yes	N/A
1384	com.wizardgames.bg3dGO	Free	Block Gun 3D: Ghost Ops	No	No	Yes	No
1385	com.mercariapp.mercari	Free	Mercari: Anyone can buy & sell	No	No	No	Yes
1386	com.giphy.messenger	Free	GIPHY for Messenger	No	No	No	No
1387	com.bigblueparrot.pokerfriends	Free	Poker Friends - Texas Holdem	No	No	Yes	N/A
1388	com.perblue.greedforglory.en	Free	Greed for Glory: Elder Magicks	No	No	Yes	N/A
1389	com.gamevil.bmpoker.global	Free	Aces Loaded Poker	Yes	No	Yes	N/A
1390	com.fitch.bubbleballs	Free	Bubbles	Yes	No	No	N/A
1391	com.mediocre.grannysmith	Paid	Granny Smith	No	No	Yes	No
1392	com.zuanyan.slotssecret	Free	Slots Secret	Yes	No	Yes	N/A

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1393	com.gp.fungames.lords	Free	Soul Lords: Guild Wars	No	No	Yes	Yes
1394	com.gamehiveworks.bossrace	Free	Battle Run	No	No	Yes	No
1395	com.gameloft.android.ANMP.GlofiRAHM	Free	GT Racing 2: The Real Car Exp	Yes	No	Yes	Yes
1396	com.funfactory.texaspoker	Free	JM Poker	Yes	No	Yes	N/A
1397	com.spaceagegames.rivalkingdoms	Free	Rival Kingdoms: Age of Ruin	No	No	Yes	No
1398	com.jailbase.mobile.app	Free	JailBase - Arrests + Mugshots	No	No	No	No
1399	jp.konami.swfc	Free	Star Wars Force Collection	No	Yes	Yes	No
1400	net.wargaming.wot.blitz	Free	World of Tanks Blitz	No	No	Yes	Yes
1401	com.animoca.google.thorextreme	Free	Thor: Champions of Asgard	Yes	No	Yes	N/A
1402	com.animoca.google.ro	Free	Ragnarok: War of Gods	No	No	Yes	N/A
1403	com.outfit7.tomlovesangela.free	Free	Tom Loves Angela	No	No	No	Yes
1404	com.glu.stardomng	Free	STARDOM: HOLLYWOOD	No	No	Yes	Yes
1405	com.ubisoft.redlynx.trialsfrontier.ggj	Free	Trials Frontier	No	Yes	Yes	Yes
1406	com.perblue.greedforglory.dc	Free	Greed for Glory: Dragon Cities	No	No	No	N/A
1407	com.teamlava.petshop17	Free	Pet Shop Story: Thanksgiving	No	No	No	N/A
1408	com.crazylabs.primitives	Free	Primitives Puzzle in Time	No	No	Yes	No
1409	com.turbochilli.hoppyfrog	Free	Hoppy Frog	No	No	Yes	No
1410	com.tp.android.handboxdoctor	Free	Hand Doctor - kids games	Yes	No	Yes	N/A
1411	com.nix.game.mahjong	Free	Mahjong	Yes	No	Yes	N/A
1412	com.largeanimal.colorzen	Free	Color Zen	No	No	Yes	Yes
1413	com.teamlava.dragon5	Free	Dragon Story: Valentines Day	No	No	No	Yes
1414	com.disney.castleofillusion.goc	Paid	Castle of Illusion	Yes	Yes	Yes	Yes
1415	com.brighthouse.whitetiles4Anc	Free	White Tiles 4 : Piano Master	Yes	Yes	Yes	Yes
1416	com.gsn.android.casino	Free	GSN Casino – FREE Slots	Yes	Yes	Yes	Yes
1417	com.lampe.torcher.flashligh	Free	Flashlight: LED Light	Yes	No	No	N/A
1418	com.ludia.flintstones	Free	The Flintstones™: Bedrock!	No	No	Yes	No
1419	com.glu.sniperx	Free	SNIPER X WITH JASON STATHAM	No	No	Yes	Yes
1420	com.teamlava.petshop7	Free	Pet Shop Story: Halloween	No	No	No	N/A
1421	com.pocketgems.android.chasingyello	Free	Chasing Yello	No	No	Yes	Yes
1422	com.ea.game.dungeonkeeper.na	Free	Dungeon Keeper	No	Yes	Yes	No
1423	com.Alper.GravityProject	Free	Gravity Project	No	No	Yes	N/A
1424	com.reliancegames.rschampions	Free	Real Steel Champions	Yes	Yes	Yes	No
1425	com.pgpublsh.android.rush	Free	NFL Runner: Football Dash	No	No	Yes	No
1426	com.pinger.textfree	Free	Text Free - Free Text + Call	Yes	No	No	Yes
1427	com.droidhen.defender	Free	Defender	Yes	No	Yes	N/A
1428	com.teamlava.bakerystory23	Free	Bakery Story: Mother's Day	No	No	No	N/A
1429	com.northcube.sleepcycle	Paid	Sleep Cycle alarm clock	No	No	No	Yes
1430	com.ember.nationzSD	Free	Battle Beach	No	No	Yes	N/A
1431	com.animoca.google.ultramanofficia	Free	Ultraman Galaxy Open Beta	No	No	Yes	N/A
1432	com.ea.deadspace.na	Paid	Dead Space	No	Yes	Yes	Yes
1433	com.bfs.ninjump	Free	NinJump	Yes	No	Yes	Yes
1434	com.huuge.thor	Free	Thor Slots Casino	Yes	No	Yes	N/A
1435	com.baseapp.eyem	Free	EyeEm - Camera & Photo Filter	No	No	No	Yes
1436	com.wb.headsup	Paid	Heads Up!	Yes	Yes	No	Yes
1437	com.catdaddy.cat22	Free	WWE SuperCard	No	Yes	Yes	No
1438	com.telltalegames.walkingdead200	Free	The Walking Dead: Season Two	No	Yes	Yes	Yes
1439	com.scee.psxandroid	Free	PlayStation®App	No	Yes	No	No
1440	com.droidhen.game.racingmoto	Free	Racing Moto	No	No	Yes	N/A
1441	net.mobigame.zombietsunami	Free	Zombie Tsunami	Yes	No	Yes	Yes
1442	com.mandrejn.revc	Free	NewsChannel 5 Nashville	No	Yes	No	N/A
1443	com.gamevil.punchhero.glc	Free	Punch Hero	No	No	Yes	Yes
1444	com.smule.aurorap	Free	AutoRap by Smule	No	No	No	No
1445	com.lightricks.facetune	Paid	Facetune	Yes	No	No	Yes
1446	com.gameloft.android.ANMP.GlofiF3HM	Free	NFL Pro 2014	No	No	Yes	Yes
1447	com.teamlava.bakerystory35	Free	Bakery Story: St Patrick's Day	No	No	No	N/A
1448	com.creativemobile.cod	Free	Clash of the Damned	No	No	Yes	N/A
1449	com.gamenauts.ninjabfishingful	Free	Ninja Fishing	No	No	Yes	Yes
1450	com.teamlava.petshop26	Free	Pet Shop Story: Fathers Day	No	No	No	N/A
1451	com.dm.timber	Free	Timberman	Yes	No	Yes	No
1452	com.chevy.gametime	Free	Chevy Game Time	No	Yes	No	Yes
1453	com.ximad.mpuzzle.android	Free	Magic Jigsaw Puzzles	Yes	No	No	Yes
1454	com.magmamobile.game.RFR	Free	Retro Future Racing	Yes	No	Yes	N/A
1455	com.dg.gamogames.venicemystery	Free	Mahjong Venice Mystery Puzzle	Yes	No	Yes	N/A
1456	com.mtvn.sbmigoogleplay	Paid	SpongeBob Moves In	No	Yes	Yes	Yes
1457	com.UBI.A90.WW	Free	Nutty Fluffies Rollercoaster	No	Yes	Yes	Yes
1458	com.zentertain.bigcasino	Free	Lucky Win Casino™- FREE SLOTS	Yes	No	Yes	N/A
1459	com.king2.english.us.inf	Free	Ice and Fire: Thrones	No	No	Yes	N/A
1460	com.ksmobile.cb	Free	CM Browser - Fast & Secure	No	No	No	N/A
1461	com.aspyr.swkotor	Paid	Star Wars™: KOTOR	No	No	Yes	Yes
1462	com.webprancer.google.GarfieldsDiner	Free	Garfields Diner	Yes	No	Yes	Yes
1463	com.RobotUnicornAttack	Paid	Robot Unicorn Attack	No	Yes	No	Yes
1464	com.webprancer.google.gdseason	Free	Garfield Saves The Holidays	Yes	No	Yes	N/A
1465	com.worms3.app	Paid	Worms 3	No	No	Yes	Yes
1466	com.glu.stardom	Free	STARDOM: THE A-LIST	No	No	Yes	Yes
1467	com.nexonm.dominations.adk	Free	DomiNations	No	No	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1468	com.dg.puzzlebrothers.mahjong.summergarder	Free	Hidden Mahjong: Summer Garden	Yes	No	Yes	N/A
1469	com.aceviral.angrygrantoss	Free	Angry Gran Toss	Yes	No	Yes	N/A
1470	com.amctv.thewalkingdead.deadyourself	Free	The Walking Dead Dead Yourself	No	Yes	No	Yes
1471	com.minus.android	Free	MeowChat	No	No	No	No
1472	com.invictus.impossibal	Free	Give It Up!	No	No	Yes	Yes
1473	com.zynga.farmarcade	Free	FarmVille: Harvest Swap	Yes	Yes	Yes	No
1474	com.rubicon.dev.glwg	Paid	Great Little War Game	Yes	No	Yes	Yes
1475	com.mobage.ww.a.HellInvaders Android	Free	The Gate - Free RTS CCG game	No	No	Yes	N/A
1476	com.thehomedepot.coloryourworld	Free	Project Color - The Home Depot	Yes	Yes	No	Yes
1477	com.com2us.puzzlefamily.up.freefull.google.global .android.common	Free	Puzzle Family	No	No	Yes	N/A
1478	com.eamobile.tetris	Paid	TETRIS ®	Yes	Yes	No	No
1479	com.animoca.google.starGirlChristmas	Free	Star Girl: Christmas	Yes	No	Yes	N/A
1480	com.teamlava.petshop20	Free	Pet Shop Story: Easter	No	No	No	N/A
1481	com.sdeu.google.hellokittycarnival	Free	Hello Kitty Carnival	Yes	Yes	Yes	Yes
1482	com.teamlava.dragon7	Free	Dragon Story: Halloween	No	No	No	No
1483	com.fluik.Explosions	Free	Grumpy Bears	No	No	Yes	No
1484	com.com2us.heroeswar.normal.freefull.google.glo bal.android.common	Free	Heroes War™	No	No	Yes	N/A
1485	com.kabam.cnthg	Free	The Hunger Games: Panem Rising	No	Yes	Yes	N/A
1486	com.alawar.ShakeSpears	Free	Shake Spears!	No	No	Yes	Yes
1487	com.aceviral.stickmanstunts	Free	StickMan BMX Stunts Bike	Yes	No	Yes	N/A
1488	com.mudloop.zigzagboom	Free	Zig Zag Boom	Yes	No	Yes	N/A
1489	com.dedalord.runningfred	Free	Running Fred	Yes	No	Yes	Yes
1490	com.animocacollective.google.myCarSalonPr	Free	My Car Salon Pro	No	No	Yes	N/A
1491	com.xyrality.goblinsattack.googleplay	Free	Incoming! Goblins Attack TD	No	No	Yes	N/A
1492	com.telltalegames.minecraft100	Paid	Minecraft: Story Mode	No	Yes	Yes	No
1493	com.webprancer.google.garfieldcookieadozer	Free	Garfield Cookie Dozer	Yes	No	Yes	N/A
1494	com.metamoki.Aquapop	Free	Fruit Pop!	Yes	No	Yes	Yes
1495	com.mediocre.sprinkle	Paid	Sprinkle	No	No	Yes	Yes
1496	com.sevenga.hog_gp	Free	Heroes of Galaxy	No	No	Yes	N/A
1497	com.microsoft.skydrive	Free	OneDrive – cloud storage	Yes	Yes	No	Yes
1498	com.sonypicturetelevision.wheeloffortune30	Paid	Wheel of Fortune	Yes	Yes	Yes	Yes
1499	com.huuuge.freespins	Free	Casino™	Yes	No	Yes	N/A
1500	com.scottgames.fnaf3	Paid	Five Nights at Freddy's 3	No	No	Yes	No
1501	com.droidhen.turbo	Free	Turbo Kids	Yes	No	Yes	N/A
1502	com.ted.android	Free	TED	Yes	Yes	No	Yes
1503	com.teamlava.bakerystory27	Free	Bakery Story: 4th of July	No	No	No	N/A
1504	air.com.generamobile.slotmagodeoz	Free	Slots Wizard of Oz	Yes	No	Yes	N/A
1505	com.ubisoft.horsehaven.adventures	Free	Horse Haven World Adventures	No	Yes	Yes	No
1506	com.sharkparty.slots21	Free	Slots™: Vegas	Yes	No	No	N/A
1507	com.gameloft.android.ANMP.GloftPEHM	Free	Littlest Pet Shop	No	No	Yes	No
1508	com.target.ui	Free	Target	No	Yes	No	Yes
1509	com.mobage.ww.a1575.Motor_World_Car_Factor y Android	Free	Motor World Car Factory	No	No	Yes	Yes
1510	com.spacegame.diamond	Free	Gem Mania: Diamond Match Puzzle	No	No	Yes	N/A
1511	com.g6677.android.chospital	Free	Celebrity Hospital	No	No	Yes	No
1512	jp.co.a tm.wol.en	Free	War of Legions	No	No	Yes	Yes
1513	com.wb.goog.godzilla.strikezone	Free	Godzilla: Strike Zone	No	Yes	Yes	No
1514	com.leosfortune	Paid	Leos Fortune	Yes	No	Yes	Yes
1515	com.glu.smallstreet	Free	SMALL STREET	No	No	Yes	Yes
1516	com.galapagossoft.trialsx2 winter	Free	Trial Xtreme 2 Winter	Yes	No	Yes	No
1517	net.skyvu.battlebearsroyal	Free	Battle Bears	No	No	No	Yes
1518	com.bumptech.bumpga	Free	Bump	No	No	No	Yes
1519	air.com.tilergames.drjim.avazu	Free	Dr.GreyLord	No	No	No	N/A
1520	com.instagram.boomerang	Free	Boomerang from Instagram	No	No	No	No
1521	com.zenjoy.flashlightf	Free	Flashlight: LED Light	Yes	No	No	N/A
1522	dk.tactile.beebrilliant	Free	Bee Brilliant	No	No	Yes	Yes
1523	com.inxile.BardTale	Paid	The Bards Tale	No	No	Yes	Yes
1524	com.box.android	Free	Box	Yes	Yes	No	Yes
1525	com.dg.puzzlebrothers.mahjong.happydoglife	Free	Hidden Mahjong: Happy Dog Life	Yes	No	Yes	N/A
1526	com.huuuge.cats.slots	Free	Casino Slot Machines	Yes	No	Yes	N/A
1527	com.activision.elite	Free	Call of Duty® ELITE	No	Yes	No	Yes
1528	com.scopely.minigolf.winter	Free	Mini Golf MatchUp™ Seasons	No	No	Yes	N/A
1529	com.nhntent.SKJACK	Free	Help Me Jack: Atomic Adventure	No	No	Yes	N/A
1530	air.com.playtika.cvs	Free	Old Slots-Downtown Vegas Slots	Yes	No	Yes	N/A
1531	com.teamlava.petshop35	Free	Pet Shop Story: Springtime	No	No	Yes	N/A
1532	com.frogmind.badland	Free	BADLAND	Yes	No	Yes	Yes
1533	com.squareenixmontreal.hitmangc	Paid	Hitman GO	Yes	Yes	Yes	Yes
1534	com.teamlava.bakerystory31	Free	Bakery Story: Thanksgiving	No	No	No	N/A
1535	com.digitalsky.dragonbane.elite	Free	Dragon Bane Elite	No	No	Yes	Yes
1536	net.imcjp.android.casino	Free	Slots Social Casino	Yes	No	Yes	No
1537	com.ubisoft.watchdogs.ctos	Free	Watch Dogs Companion : ctOS	No	Yes	Yes	No
1538	com.tinyco.monsters	Free	Tiny Monsters	No	No	Yes	Yes
1539	com.worms2armageddon.app	Paid	Worms 2: Armageddon	No	No	Yes	Yes



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1540	com.outfit7.trifx.grooveracer	Free	Groove Racer	No	No	Yes	Yes
1541	com.qo.android.am3	Paid	Quickoffice Pro (Office & PDF)	Yes	No	No	N/A
1542	com.namcobandaigames.riseofglory	Free	Sky Gamblers: Rise of Glory	Yes	Yes	Yes	N/A
1543	com.vectorunit.purple.googleplay	Free	Beach Buggy Racing	Yes	No	Yes	No
1544	com.sega.DragonCoins.en	Free	Dragon Coins	No	Yes	Yes	N/A
1545	com.feelingtouch.gnz.realistic	Free	Zombie World War	No	No	Yes	N/A
1546	com.supersolid.adventuretown	Free	Adventure Town	Yes	No	Yes	No
1547	com.babycortex.google.mathRun	Free	Math Run	No	No	Yes	N/A
1548	air.com.electech.happyfarm	Free	Happy Farm: Candy Day	No	No	Yes	N/A
1549	com.sd.google.helloKittyCafe	Free	Hello Kitty Cafe	Yes	Yes	Yes	No
1550	ca.jamdat.flight.scrabblefree	Free	SCRABBLE Free	No	Yes	No	Yes
1551	com.loadcomplete.hankanaction	Free	Devil Eater	No	No	Yes	N/A
1552	com.rovio.amazingalex.premium	Paid	Amazing Alex	Yes	No	Yes	No
1553	com.outfit7.talkinggingerfree	Free	Talking Ginger	Yes	No	No	Yes
1554	com.threeminutegames.lifeline.google	Paid	Lifeline	No	No	Yes	Yes
1555	sg.gumi.bravefrontier	Free	Brave Frontier	Yes	No	Yes	No
1556	com.teamlava.petshop33	Free	Pet Shop Story: Winter	No	No	No	N/A
1557	com.sd.google.hkbsseasons	Free	Hello Kitty Seasons	Yes	Yes	Yes	N/A
1558	com.huuge.clubcasino	Free	Nuestra Belleza Latina Casino	No	No	Yes	N/A
1559	com.funfactory.mmc	Free	Kingdoms and Monsters	No	No	No	N/A
1560	com.namcobandaigames.spmoja010E	Free	ONE PIECE TREASURE CRUISE	No	Yes	Yes	No
1561	com.turner.cnanything	Free	Cartoon Network Anything	Yes	Yes	No	No
1562	com.superluckycasino.blaze.slots.vegas.android.free	Free	SLOTS BLAZE - free with Bonus!	Yes	No	Yes	N/A
1563	com.teamlava.petshop28	Free	Pet Shop Story: Summer	No	No	No	N/A
1564	com.mobage.ww.a1602.arcadeball Android	Free	Arcade Ball	No	No	Yes	Yes
1565	com.roguerocketgames.sushichop	Free	Sushi Chop	Yes	No	Yes	N/A
1566	vo.threes.exclaim	Paid	Threes!	Yes	No	Yes	Yes
1567	com.tp.android.plasticsurgery	Free	Plastic Surgery Simulator	No	No	Yes	N/A
1568	com.gameloft.android.ANMP.GloftDOHM	Free	Dragon Mania Legends	Yes	No	Yes	Yes
1569	com.solver.worldofcubes	Free	World of Cubes	No	No	Yes	Yes
1570	com.ea.game.dragonage na	Free	Heroes of Dragon Age	No	Yes	Yes	No
1571	com.tacobell.ordering	Free	Taco Bell	No	Yes	No	Yes
1572	com.mobage.ww.a844.Gasha300 Android	Free	Galaxy Assault	No	No	No	N/A
1573	es.socialpoint.DragonCity	Free	Dragon City	No	No	Yes	Yes
1574	sts.dl	Free	Dark Legends	No	No	Yes	N/A
1575	com.ketchapp.bounce	Free	Bounce	No	No	Yes	Yes
1576	net.peakgames.lostbubble	Free	Lost Bubble - Bubble Shooter	No	No	Yes	Yes
1577	com.fueled.afterlight	Paid	Afterlight	Yes	No	No	Yes
1578	com.d3p.mpq	Free	Marvel Puzzle Quest	No	No	Yes	No
1579	com.teamlava.dragon	Free	Dragon Story™	No	No	Yes	Yes
1580	com.sharkparty.slots28	Free	Slots™: Summer Break	Yes	No	No	N/A
1581	com.sharkparty.monopolybingo	Free	MONOPOLY Bingo!	Yes	No	Yes	Yes
1582	com.bitmango.wordscrush	Free	Words Crush: Hidden Words!	Yes	No	Yes	N/A
1583	com.gameinsight.bigbusiness	Free	Tiny Business	No	No	Yes	N/A
1584	com.teamlava.dragon20	Free	Dragon Story: Easter	No	No	No	N/A
1585	com.quoord.tapatalkHD	Paid	Tapatalk Pro	Yes	No	No	Yes
1586	com.microsoft.office.officehub	Free	Microsoft Office Mobile	Yes	Yes	No	Yes
1587	com.gameresort.stupidzombies	Free	Stupid Zombies	No	No	Yes	Yes
1588	com.mobage.ww.a1817.GhostRunner Android	Free	Go Go Ghost	No	No	Yes	N/A
1589	com.iaendi.goalhero	Free	Goal Hero: Soccer SuperStar	No	No	Yes	No
1590	com.catdaddy.mynba2k16	Free	MyNBA2K16	No	Yes	Yes	No
1591	com.microsoft.smartglass	Free	Xbox 360 SmartGlass	Yes	Yes	No	Yes
1592	com.bible.kids	Free	Bible for Kids	Yes	Yes	No	No
1593	com.onehundredpics.onehundredpicsquiz	Free	100 PICS Quiz	No	No	Yes	Yes
1594	com.dudeperfect.dudeperfect	Paid	Dude Perfect	Yes	No	Yes	Yes
1595	com.mobage.ww.a873.fatalfrontier android Android	Free	Fatal Frontier	No	No	Yes	N/A
1596	com.gameloft.android.ANMP.GloftKRHM	Paid	The Dark Knight Rises	Yes	No	Yes	No
1597	com.perblue.greedforglory.ww	Free	Greed For Glory: Winter Wars	No	No	No	N/A
1598	com.com2us.projecteast.normal2.freefull.google.gl	Free	East Legend	No	No	Yes	N/A
1599	obal.android.common	Free	Titan Slots™	No	No	Yes	Yes
1600	com.capitalone.mobile.wallet	Free	Capital One Wallet	No	Yes	No	Yes
1601	com.D9.hero.zagame.en.andriodgp	Free	Pocket Knights	No	No	No	No
1602	com.apple.android.music	Free	Apple Music	No	Yes	No	N/A
1603	com.turner.stevenrpg	Paid	Attack the Light	No	Yes	Yes	No
1604	com.sharkparty.slots8	Free	Slots™: Holiday Edition	Yes	No	No	N/A
1605	air.com.animocollective.google.captainvoyage	Free	Pirates Kingdom	No	No	Yes	N/A
1606	air.com.flipline.papasfreezeriatogc	Paid	Papas Freezeria To Go!	No	No	Yes	No
1607	com.scottgames.fna4	Paid	Five Nights at Freddy's 4	No	No	Yes	No
1608	com.kakapo.bingocasino	Free	Bingo Fever-Free Bingo Casino	Yes	No	Yes	N/A
1609	com.teamlava.bakerystory34	Free	Bakery Story: Springtime	No	No	No	N/A
1610	com.verizonmedia.go90.enterprise	Free	go90 - Mobile TV Network	No	Yes	No	N/A
1611	com.com2us.derbyday.normal.freefull.google.glob	Free	Derby Days	No	No	Yes	Yes
1612	al.android.common	Free					
	com.turner.atksisafari	Paid	Ski Safari: Adventure Time	No	Yes	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1613	com.sm.smolve	Free	Smolve	No	No	Yes	Yes
1614	com.outfit7.bubbleshooterbattle	Free	Mars Pop - Bubble Shooter	No	No	Yes	N/A
1615	com.degoo.android.lnose	Free	Nose Doctor - Free games	No	No	Yes	N/A
1616	com.fullfat.android.quarterback	Paid	NFL Flick Quarterback	No	No	Yes	No
1617	com.teamlava.dragon2	Free	Dragon Story: New Dawn	No	No	No	Yes
1618	com.polarbit.rthunderlite	Free	Raging Thunder - FREE	No	No	Yes	N/A
1619	com.fox.americanidol	Free	American Idol	No	Yes	No	Yes
1620	com.jeremysteckling.facerel	Paid	Facer - Watch Faces	No	No	No	N/A
1621	com.feelingtouch.zombieterminator2	Free	Zombie Terminator	No	No	Yes	No
1622	com.mufumbo.craigslist.notification.android	Free	Craigslist	No	No	No	Yes
1623	com.playdead.limbo.full	Paid	LIMBO	No	No	Yes	Yes
1624	com.superphoto	Free	SuperPhoto - Effects + Filters	Yes	No	No	No
1625	com.intsig.lic.camscanner	Paid	CamScanner (License)	Yes	No	No	Yes
1626	com.zenjoy.capricorn	Free	Heroes League: War of Legends	No	No	Yes	N/A
1627	com.teamlava.dragon25	Free	Dragon Story: Fairy Tales	No	No	No	N/A
1628	com.edu.schollyapp	Paid	Scholly: Scholarship Search	No	No	No	Yes
1629	com.syntellia.fleksy.kit	Free	Fleksy + GIF Keyboard Free	No	No	No	Yes
1630	com.xreal.FortressFury	Free	Fortress Fury	No	No	Yes	No
1631	com.teamlava.bakerystory36	Free	Bakery Story: Mother's Day	No	No	No	N/A
1632	com.animoca.google.robotacademy	Free	Robot Academy	No	No	Yes	N/A
1633	com.nextgenreality.gunclub3	Free	Gun Club 3: Virtual Weapon Sim	Yes	No	Yes	N/A
1634	com.halfbrick.ageofzombies	Paid	Age of Zombies	No	No	Yes	Yes
1635	com.dedalord.superfallingfred	Free	Super Falling Fred	No	No	Yes	N/A
1636	com.dreamsky.DiabloLOL	Paid	League of Stickman	Yes	No	Yes	No
1637	com.webprancer.google.GarfieldsDinerHawaii	Free	Garfields Diner Hawaii	Yes	No	Yes	N/A
1638	com.nekki.vector.paid	Paid	Vector Full	No	No	Yes	Yes
1639	com.gameloft.android.ANMP.GloftAEHM	Free	Asphalt Overdrive	Yes	No	Yes	No
1640	com.nbc.cnbc.android.googletv	Free	CNBC Real-Time for Google TV	Yes	Yes	No	N/A
1641	com.telltalegames.fables100	Free	The Wolf Among Us	No	Yes	Yes	Yes
1642	com.igg.heroes.monsters	Free	Heroes & Monsters	No	No	Yes	N/A
1643	com.pinger.ppa	Free	Text Free on Textfree Texting	Yes	No	No	Yes
1644	com.ludia.millionairefree	Free	Who Wants To Be A Millionaire	Yes	No	Yes	N/A
1645	com.disney.ToyStorySmashIt.goc	Paid	Toy Story: Smash It!	No	Yes	Yes	Yes
1646	com.teamlava.dragon32	Free	Dragon Story: Christmas	No	No	Yes	N/A
1647	com.active.aps.c25k	Paid	Couch to 5K®	No	Yes	No	Yes
1648	com.headupgames.bridgeconstructor	Paid	Bridge Constructor	Yes	No	Yes	Yes
1649	com.limbic.ac130	Paid	Zombie Gunship	No	No	Yes	Yes
1650	com.playfirst.playground.cookingdash	Free	Cooking Dash	Yes	No	Yes	N/A
1651	com.gravitysensation.sumotori	Paid	Sumotori Dreams	No	No	Yes	No
1652	org.telegram.messenger	Free	Telegram	Yes	No	No	Yes
1653	com.ea.gp.starwarsbfcompanion	Free	SW Battlefront Companion	No	Yes	Yes	No
1654	air.com.differencegames.hiddenscenes.autumnsgardenfree	Free	Hidden Scenes - Autumn Garden	No	No	Yes	N/A
1655	net.kairossoft.android.gamedev3en	Paid	Game Dev Story	No	No	Yes	N/A
1656	com.motorola.contextual.smartrules	Free	SMARTACTIONS™	No	Yes	No	N/A
1657	com.mobage.ww.a560.tinytower android	Free	Tiny Tower	No	No	Yes	Yes
1658	com.cmcm.locker	Free	CM Locker (Secure & Boost)	No	No	No	N/A
1659	com.disney.starwarsrebels.goo	Free	Star Wars Rebels: Missions	No	Yes	Yes	No
1660	com.D9.hero.zqgame.en.andriodgpnew	Free	Pocket Knights	No	No	Yes	Yes
1661	com.glu.ddome	Free	DEATH DOME	No	No	Yes	Yes
1662	com.groundspeak.geocaching	Paid	Geocaching	Yes	No	No	Yes
1663	com.hg.frozenfrontfree	Free	1941 Frozen Front	Yes	No	Yes	N/A
1664	com.squareenixmontreal.lcgc	Paid	Lara Croft GO	Yes	Yes	Yes	No
1665	com.squareenixmontreal.hitmansniperandroid	Paid	Hitman: Sniper	Yes	Yes	Yes	Yes
1666	com.squareenix.android.googleplay.FFHII GF	Paid	FINAL FANTASY III	Yes	Yes	Yes	N/A
1667	com.teamlava.bakerystory44	Free	Bakery Story: Spring	No	No	Yes	N/A
1668	air.com.aenetnetworks.duckred.google	Paid	DuckDynasty®:BattleOfTheBeards	No	Yes	Yes	Yes
1669	com.animocacollective.google.catdefense	Free	Cats vs Dragons	No	No	Yes	N/A
1670	com.igg.android.kingdomscharg	Free	Kingdoms Charge	Yes	No	Yes	N/A
1671	com.outerminds.pewdiepie	Paid	PewDiePie: Legend of Brofist	No	No	Yes	No
1672	com.exozet.android.catan	Paid	Catan	No	No	Yes	Yes
1673	com.fullfat.android.golfextreme	Paid	Flick Golf Extreme	No	No	Yes	Yes
1674	com.ea.games.meinfiltrator.n	Paid	MASS EFFECT INFILTRATOR	Yes	Yes	Yes	Yes
1675	com.t2ksports.nba2k14google	Paid	NBA 2K14	No	Yes	Yes	Yes
1676	air.com.puffballsunited.stealingthediamond	Paid	Stealing the Diamond	No	No	Yes	N/A
1677	com.tap4fun.ge	Free	Galaxy Empire	No	No	Yes	Yes
1678	com.aceviral.santarider	Free	Santa Rider - Racing Game	No	No	Yes	N/A
1679	com.jundroo.SimplePlanes	Paid	SimplePlanes	No	No	Yes	No
1680	com.gameloft.android.ANMP.GloftPOHM	Free	MY LITTLE PONY	Yes	No	Yes	Yes
1681	com.gameloft.android.ANMP.GloftGGHM	Paid	Gangstar Vegas	No	No	Yes	Yes
1682	com.mpisoft.rooms	Free	100 Rooms	No	No	Yes	N/A
1683	com.teamlava.bakerystory42	Free	Bakery Story: Tokyo Sweets	No	No	Yes	N/A
1684	com.apalon.myclock	Paid	My Alarm Clock	Yes	No	No	No
1685	com.poptacular.picsjigsaw	Free	100 PICS Jigsaw Puzzles	Yes	No	Yes	N/A
1686	com.bossastudios.ss13touch	Paid	Surgeon Simulator	No	No	Yes	Yes

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1687	com.capcom.monsterpetshop	Free	Monster Pet Shop	No	Yes	No	Yes
1688	com.sega.soniccd	Paid	Sonic CD™	Yes	Yes	Yes	No
1689	com.tunewiki.games.ios.dancelegenc	Free	DANCE LEGEND MUSIC GAME	No	No	No	N/A
1690	com.ubisoft.assassin.pirates	Paid	Assassins Creed Pirates	Yes	Yes	Yes	No
1691	com.magamobile.game.Words	Free	Words	Yes	No	Yes	N/A
1692	com.gameloft.android.ANMP.GloftPUHM	Free	TRIVIAL PURSUIT & Friends	No	No	Yes	No
1693	com.sixtostart.zombiesrun	Paid	Zombies, Run!	No	No	No	Yes
1694	cn.konami.contraevo.gp	Paid	CONTRA: EVOLUTION	No	No	Yes	Yes
1695	com.kabam.underworldandroid	Free	Underworld Empire	No	Yes	Yes	Yes
1696	com.spacesofplay.spirits	Paid	Spirits	No	No	Yes	Yes
1697	com.polarbit.tankriders2	Free	Tank Riders 2	No	No	Yes	N/A
1698	com.teamlava.petshop32	Free	Pet Shop Story: Christmas	No	No	No	N/A
1699	com.and.games505.battleislands	Free	Battle Islands	No	No	Yes	Yes
1700	com.kiloo.frisbeeforever	Free	Frisbee(R) Forever	Yes	No	Yes	N/A
1701	com.loudercrow.pumpkin carving	Free	The Great Pumpkin Festival	No	No	No	N/A
1702	fishnoodle.snowfall	Paid	Snowfall Live Wallpaper	Yes	No	No	N/A
1703	com.shortbreakstudios.collider	Free	The Collider Free	No	No	Yes	No
1704	com.sharkparty.slots7	Free	Slots™: Haunted Halloween	Yes	No	Yes	Yes
1705	com.teamlava.candy49	Free	Candy Blast Mania: Halloween	Yes	No	Yes	Yes
1706	com.com2us.littlelegends.normal.freefull.google.gl	Free	Little Legends	No	No	Yes	N/A
1707	com.distinctdev.tmt	Paid	The Moron Test	Yes	No	No	Yes
1708	com.teamlava.candy7	Free	Candy Blast Mania: Halloween	Yes	No	Yes	Yes
1709	com.mtvn.tmntrooftoprur	Paid	TMNT: ROOFTOP RUN	No	Yes	Yes	Yes
1710	com.dreamcortex.android.CinderellaCafe	Free	Cinderella Cafe	No	No	Yes	Yes
1711	com.skybound.TWDA	Paid	The Walking Dead: Assault	No	No	Yes	Yes
1712	com.teamlava.bakerystory43	Free	Bakery Story: Pastry Shop	No	No	Yes	N/A
1713	com.noodlecake.zombieroadtrip	Free	Zombie Road Trip	No	No	Yes	No
1714	com.telenav.app.android.uscc	Free	Your Navigator Deluxe: GPS	No	Yes	No	N/A
1715	com.crazylabs.cheatingtomful	Free	Cheating Tom	No	No	Yes	No
1716	com.rockstargames.gtactw	Paid	GTA: Chinatown Wars	No	Yes	Yes	N/A
1717	com.squareenix.tombraider1classic	Paid	Tomb Raider I	No	Yes	Yes	Yes
1718	com.mekanism.brisk Saber	Free	Brisk Saber	No	No	No	Yes
1719	com.abc.abcnnews	Free	ABC News Breaking Latest News	Yes	Yes	No	Yes
1720	air.com.sarahnorthway.rebuild2	Paid	Rebuild	No	No	Yes	Yes
1721	com.eightyeightgames.ymbat	Paid	You Must Build A Boat	No	No	Yes	No
1722	com.runtastic.android.pro2	Paid	Runtastic PRO Running, Fitness	Yes	No	No	Yes
1723	com.digidust.elokence.akinator.paid	Paid	Akinator the Genie	Yes	No	No	Yes
1724	com.creativemobile.pixitgame	Free	Pix-it	No	No	Yes	N/A
1725	com.outfit7.talkingben	Free	Talking Ben the Dog	Yes	No	No	Yes
1726	com.eamobile.nfshp na wf	Paid	Need for Speed Hot Pursuit	Yes	Yes	Yes	Yes
1727	com.chillingo.thiscouldhurtfree.android.ajc	Free	This Could Hurt Free	No	Yes	Yes	N/A
1728	com.ubisoft.rayman.fiestarun	Paid	Rayman Fiesta Run	Yes	Yes	Yes	Yes
1729	com.clapfootgames.sectorstrike	Free	Sector Strike	Yes	No	Yes	N/A
1730	air.net.machinarium.Machinarium.Gf	Paid	Machinarium	Yes	No	Yes	Yes
1731	com.teamlava.bakerystory40	Free	Bakery Story: Thanksgiving	No	No	Yes	N/A
1732	com.fullfat.android.agentdash	Free	Agent Dash	No	No	Yes	No
1733	com.zenstudios.StarWarsPinball	Paid	Star Wars™ Pinball 4	Yes	No	Yes	No
1734	com.naturalmotion.myhorse	Free	My Horse	No	No	Yes	Yes
1735	com.fox.now	Free	FOX NOW	Yes	Yes	No	Yes
1736	com.astragon.cs2014	Paid	Construction Simulator 2014	No	No	Yes	Yes
1737	com.square.enix.android.googleplay.FFT.en2	Paid	FINAL FANTASY TACTICS : WoTL	Yes	Yes	Yes	Yes
1738	com.pikpok.gbod	Free	Giant Boulder of Death	No	Yes	Yes	Yes
1739	com.zynga.zombiesmash	Paid	ZombieSmash	No	Yes	Yes	N/A
1740	com.square.enix.android.googleplay.FFV	Paid	FINAL FANTASY VI	Yes	Yes	Yes	No
1741	com.activision.codm2	Free	Call of Duty: Advanced Warfare	No	Yes	No	No
1742	org.retropixel.CallSanta	Free	A Call From Santa! Free	No	No	No	No
1743	com.quvideo.xiaoying.pro	Paid	VivaVideo Pro: HD Video Editor	Yes	No	No	No
1744	com.wb.goog.lbbg	Paid	LEGO® Batman: Beyond Gotham	No	Yes	Yes	Yes
1745	com.vevo	Free	Vevo - Watch HD Music Videos	No	Yes	No	Yes
1746	com.nix.game.pinball.free	Free	Pinball	Yes	No	Yes	N/A
1747	fishnoodle.aquarium	Paid	Aquarium Live Wallpaper	No	No	No	N/A
1748	air.Airship2	Paid	Infiltrating the Airship	No	No	Yes	N/A
1749	com.hz.game.ld	Free	Lair Defense: Dungeon	No	No	Yes	N/A
1750	com.rac7.DarkEcho	Paid	Dark Echo	Yes	No	Yes	Yes
1751	com.huuge.hercules	Free	Slots Slottomania	Yes	No	Yes	N/A
1752	com.sega.sonic4epi	Paid	Sonic 4™ Episode I	Yes	Yes	Yes	Yes
1753	com.SleepNinjaGames.MAMBC	Paid	Monsters Ate My Birthday Cake	No	Yes	Yes	No
1754	com.playmious.ttf	Free	Tap the Frog	Yes	No	Yes	Yes
1755	com.eightyeightgames.tenmillion	Paid	10000000	No	No	Yes	Yes
1756	com.weathersphere.noaa.hidef.radar	Paid	NOAA Hi-Def Radar	Yes	No	No	Yes
1757	com.turner.asmajormayhem	Free	Major Mayhem	Yes	Yes	Yes	Yes
1758	com.nextgenreality.minimotc	Paid	Mini Motor Racing	Yes	No	Yes	Yes
1759	com.teamlava.candy51	Free	Candy Blast Mania: Christmas	Yes	No	Yes	No
1760	com.dragonplay.farmcasinc	Free	Farm Casino - Slot Machines	Yes	No	Yes	N/A

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1761	com.kiwi.wabeta	Free	Brightwood Adventures	No	No	Yes	No
1762	com.mtvn.SBmoviegame	Paid	SpongeBob: Sponge on the Run	No	Yes	Yes	No
1763	com.zynga.dreamheights	Free	Dream Heights	No	Yes	No	Yes
1764	air.com.bossastudios.ddd.paid	Paid	Deep Dungeons of Doom	No	No	Yes	N/A
1765	com.t2kgames.civrev2	Paid	Civilization Revolution 2	Yes	Yes	Yes	Yes
1766	net.inxile.tiq	Paid	The Impossible Quiz!	No	No	Yes	Yes
1767	com.Polyculture.Prune	Paid	Prune	Yes	No	Yes	Yes
1768	kb.Blek	Paid	Blek	No	No	Yes	Yes
1769	com.chillingo.contrejour.android.ajagplay	Paid	Contre Jour	Yes	Yes	Yes	Yes
1770	com.loudcrow.marvelavengers	Free	The Avengers-Iron Man Mark VII	No	No	No	No
1771	org.twisevictory.apps	Paid	Baby Wonder Weeks Milestones	No	No	No	Yes
1772	org.pbskids.dtgrrificfeelings	Paid	Daniel Tiger Grr-ific Feelings	No	Yes	No	Yes
1773	com.square_enix.android_googleplay.FFIV_GF	Paid	FINAL FANTASY IV	Yes	Yes	Yes	Yes
1774	com.daysofwonder.tt.android	Paid	Ticket to Ride	No	Yes	Yes	Yes
1775	com.telltalegames.gameofthrones100	Paid	Game of Thrones	No	Yes	Yes	Yes
1776	nz.co.activedevelopment.picframe_android	Paid	PicFrame	No	No	No	Yes
1777	com.ludia.tpirdecades	Paid	The Price is Right™ Decades	No	No	Yes	Yes
1778	com.perblue.greedforglory.wi	Free	Greed for Glory: War of Rivals	No	No	Yes	N/A
1779	com.reliancegames.hpanemrur	Free	Hunger Games: Panem Run	Yes	Yes	Yes	No
1780	com.superluckycasino.scratchers.hd	Free	SEXY SLOTS: Slots with Hotties!	Yes	No	Yes	N/A
1781	com.footballguys.FBGDraft2015a	Paid	Fantasy Draft Dominator 15	No	No	No	No
1782	com.bennettracingsimulations.dirttrackir	Paid	Dirt Trackin	No	No	Yes	No
1783	com.square_enix.android_googleplay.dq1_gr	Paid	DRAGON QUEST	Yes	Yes	Yes	No
1784	com.oddworld.Stranger	Paid	Oddworld: Strangers Wrath	No	No	Yes	Yes
1785	com.wb.lego.tcs	Paid	LEGO® Star Wars™: TCS	No	Yes	Yes	Yes
1786	com.t2ksports.wwe2k15mobile	Paid	WWE 2K	No	Yes	Yes	No
1787	com.rogue.smash3	Free	Godzilla - Smash3	No	No	Yes	No
1788	com.noodlecake.blockheads	Free	The Blockheads	No	No	Yes	N/A
1789	com.deathbatgame.hailtotheking	Paid	Hail to the King: Deathbat	No	No	Yes	No
1790	com.senri.da	Paid	Devils Attorney	No	No	Yes	No
1791	net.kairossoft.android.bouken_en	Paid	Dungeon Village	No	No	No	No
1792	com.djinnworks.RNF4	Free	RopenFly 4	No	No	Yes	No
1793	com.flightradar24pro	Paid	Flightradar24 - Flight Tracker	Yes	No	No	Yes
1794	com.syntellia.fleksy.keyboard	Paid	Fleksy + GIF Keyboard	No	No	No	Yes
1795	com.squareenix.android.crystaldefenders_1	Paid	Crystal Defenders	No	Yes	Yes	N/A
1796	com.teamlava.dragon22	Free	Dragon Story: Spring	No	No	No	N/A
1797	com.sharkparty.slots24	Free	Slots™: Memorial Day	Yes	No	No	N/A
1798	com.retale.android	Free	Coupons, Deals & Weekly Ads	Yes	No	No	No
1799	com.teamlava.bakerystory45	Free	Bakery Story: Poets Cafe	No	No	Yes	N/A
1800	air.com.adobe.pstouchphone	Paid	Photoshop Touch for phone	Yes	Yes	No	No
1801	com.coffeestainstudios.goatsimulator.goatz	Paid	Goat Simulator GoatZ	Yes	No	Yes	No
1802	com.vectorunit.green	Paid	Shine Runner	Yes	No	Yes	N/A
1803	com.ea.gp.fifa2014	Free	FIFA 16	Yes	Yes	Yes	Yes
1804	com.teamlava.candy31	Free	Candy Blast Mania: Turkey Day	Yes	No	Yes	N/A
1805	air.com.flipline.papasizzeriatogc	Paid	Papas Pizzeria To Go!	No	No	Yes	No
1806	com.chillingo.powerpingpong.android.gplay	Paid	Power Ping Pong	No	Yes	Yes	No
1807	net.mobilecraft.basketballkings	Free	Basketball Kings: Multiplayer	No	No	Yes	No
1808	com.marvel.guardiansofthegalaxy_goc	Paid	Guardians of the Galaxy: TUW	No	Yes	Yes	No
1809	com.gamehivestudio.taptitans	Free	Tap Titans	No	No	Yes	No
1810	com.Ugamehome.StillandWar	Free	Stilland War (Online MMO RPG)	No	No	Yes	No
1811	com.powerschool.portal	Free	PowerSchool Mobile	No	Yes	No	Yes
1812	com.wb.lego.marvel	Paid	LEGO® Marvel Super Heroes	No	Yes	Yes	N/A
1813	com.gun.bnc	Paid	Breach & Clear	No	No	Yes	Yes
1814	com.ubisoft.rabbids.bigbang.ggp	Paid	Rabbids Big Bang	Yes	Yes	Yes	Yes
1815	com.kongregate.mobile.slashyhero.google	Free	Slashy Hero	No	No	Yes	N/A
1816	com.bikelifegame.meekmillpresentsbikelifi	Free	Meek Mill Presents Bike Life	No	No	Yes	No
1817	com.glu.t5	Free	TERMINATOR GENISYS: GUARDIAN	No	No	Yes	Yes
1818	com.eamobile.themepark_na	Free	Theme Park	No	Yes	No	Yes
1819	com.MikaMobile.Zombierville	Paid	Zombierville USA	No	No	Yes	N/A
1820	com.teamlava.bakerystory46	Free	Bakery Story: Yoga Cafe	No	No	Yes	N/A
1821	com.rubicon.dev.gbwg	Paid	Great Big War Game	Yes	No	Yes	No
1822	com.teamlava.candy4	Free	Candy Blast Mania Valentines	Yes	No	Yes	Yes
1823	com.harebrainedschemes.shadowrun	Paid	Shadowrun Returns	No	No	Yes	No
1824	com.telltalegames.borderlands100	Paid	Tales from the Borderlands	No	Yes	Yes	Yes
1825	com.harpan.sudokuGooglePlay	Free	Sudoku	Yes	No	Yes	N/A
1826	com.setsnail.daddylonglegs	Free	Daddy Long Legs	No	No	Yes	No
1827	com.gameloft.android.ANMP.GloftOPHM	Paid	The Oregon Trail	Yes	No	No	Yes
1828	com.santaragione.fotonicaiOS	Paid	FOTONICA	No	No	Yes	Yes
1829	com.real.RealPlayer	Free	RealPlayer®	Yes	Yes	No	N/A
1830	com.disney.PaintAndPlay_goc	Paid	Mickeys Color and Play!	No	Yes	No	Yes
1831	com.ea.game.peggle_row	Free	Peggle Blast	No	Yes	Yes	No
1832	com.squareenix.dxm	Paid	Deus Ex: The Fall	No	Yes	Yes	Yes
1833	com.teamlava.dragon31	Free	Dragon Story: Thanksgiving	No	No	No	N/A
1834	com.camouflagerepublique	Paid	République	No	No	Yes	Yes
1835	com.pikpok.mame	Paid	Monsters Ate My Condo	No	Yes	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1836	block.city.game	Paid	Block City Wars	No	No	Yes	Yes
1837	com.glu.mi5	Free	Mission Impossible RogueNation	No	No	Yes	Yes
1838	com.sega.CrazyTaxi	Paid	Crazy Taxi Classic	No	Yes	Yes	Yes
1839	com.glutenfreegames.dogsimulator	Paid	Stray Dog Simulator	No	No	Yes	No
1840	com.mageeks.android.trucksimulatorpro2016	Paid	Truck Simulator PRO 2016	No	No	Yes	Yes
1841	com.capybaragames.sworcery	Paid	Superbrothers Sword & Sworcery	No	No	Yes	Yes
1842	com.elevenbitstudios.twommobile	Paid	This War of Mine	No	No	Yes	No
1843	com.t2ksports.nba2k16android	Paid	NBA 2K16	No	Yes	Yes	No
1844	com.hg.cloudsandsheepfree	Free	Clouds & Sheep	No	No	Yes	N/A
1845	com.neonplay.trafficpanic4	Free	Traffic Panic London	No	No	Yes	Yes
1846	com.fullfat.android.nflkicker	Paid	NFL Kicker!	No	No	Yes	No
1847	com.aircrunch.shopalerts	Free	Coupons & Weekly Ads Shopular	Yes	No	No	No
1848	com.t2ksports.nba2k13android	Paid	NBA 2K13	No	Yes	Yes	No
1849	com.realarcade.CL4	Paid	COLLAPSE!	Yes	Yes	Yes	N/A
1850	com.sonicjump.sonicjump	Paid	Sonic Jump	Yes	Yes	Yes	Yes
1851	com.tigrido.dictator.revolt1	Paid	Dictator: Revolt	Yes	No	Yes	Yes
1852	jp.kiteretsu.zookeeper_dx	Paid	ZOOKEEPER DX TouchEdition	No	No	Yes	Yes
1853	com.tocaboca.tocalab	Paid	Toca Lab	No	No	No	Yes
1854	com.disney.MonstersUniversity.goc	Paid	Monsters University	No	Yes	Yes	No
1855	com.subatomicstudios.fieldrunners2	Paid	Fieldrunners 2	No	No	Yes	Yes
1856	com.appkruti.crazyheliumbooth	Paid	Crazy Helium Video Booth	No	No	No	Yes
1857	com.nightmariungame	Free	Nightmariun	No	No	Yes	N/A
1858	com.sevenminworkout	Paid	7 Minute Workout Challenge	Yes	No	No	Yes
1859	com.microsoft.office.officelens	Free	Office Lens	Yes	Yes	No	Yes
1860	com.fsdigital.skinstudio	Paid	Minecraft Skin Studio	No	No	Yes	Yes
1861	com.glutenfreegames.wolfssimulatortw	Paid	Ultimate Wolf Simulator	No	No	Yes	No
1862	com.mtvn.SBminigame	Paid	SpongeBobs Game Frenzy	No	Yes	Yes	Yes
1863	pl.idreams.jellydefense	Paid	Jelly Defense	No	No	Yes	N/A
1864	com.skyjetinter.chaoslite	Paid	CHAOS Combat Helicopter HD №1	No	No	Yes	No
1865	joybits.doodlegod	Paid	Doodle God™	Yes	No	Yes	Yes
1866	com.activision.gw3.dimensions	Paid	Geometry Wars 3: Dimensions	No	Yes	Yes	Yes
1867	com.hg.farminvasionfree	Free	Farm Invasion USA	No	No	Yes	N/A
1868	com.myyearbook.m	Free	MeetMe: Chat & Meet New People	Yes	No	No	Yes
1869	pl.idreams.CanKnockdown2	Paid	Can Knockdown 2	No	No	Yes	N/A
1870	net.kairosoft.android.soccer_en	Paid	Pocket League Story	No	No	Yes	N/A
1871	com.fde.predators	Paid	Predators™	No	Yes	Yes	N/A
1872	com.gameloft.android.ANMP.Gloft9MHM	Paid	9mm	No	No	Yes	N/A
1873	com.bigbluebubble.fatfree	Free	Fling a Thing	No	No	Yes	N/A
1874	com.distractionware.superhexagon	Paid	Super Hexagon	No	No	Yes	Yes
1875	com.halfbrick.colossatron	Paid	Colossatron	No	No	Yes	No
1876	com.fgol.grabatron1	Paid	Grabatron	No	No	Yes	Yes
1877	com.magmic.skipbo	Paid	Skip-Bo™	No	No	Yes	Yes
1878	com.gameloft.android.ANMP.GloftWWHM	Paid	Wheres Waldo Now?™	No	No	Yes	N/A
1879	com.playfirst.playground.dinerdashdeluxe	Paid	Diner Dash Classic Deluxe	No	No	Yes	Yes
1880	com.elevenbitstudios.AnomalyWarzoneEarthHC	Paid	Anomaly Warzone Earth HD	No	No	Yes	N/A
1881	se.feomedia.pixduel.us.premium	Paid	Pixduel™ PREMIUM	No	No	Yes	No
1882	com.storm8.imobsters	Free	iMobsters™	No	No	Yes	Yes
1883	com.kevinbradford.games.theguides	Paid	The Guides	No	No	Yes	No
1884	com.mtvn.tmntMovieGame	Paid	TMNT: Brothers Unite	No	Yes	Yes	No
1885	ch.sunnysidegames.thefirm	Paid	The Firm	Yes	No	Yes	Yes
1886	it.navionics.singleAppUsa	Paid	Boating USA	No	No	No	Yes
1887	com.addictinggames.hatfall	Paid	Zero Punctuation: Hatfall	No	No	Yes	No
1888	org.topia.app	Paid	Topia World Builder	No	No	Yes	Yes
1889	com.secretexit.zb2	Paid	Zen Bound 2	No	No	Yes	Yes
1890	com.turner.pixelpressadventuretime	Paid	Adventure Time Game Wizard	No	Yes	Yes	No
1891	com.noodlecake.punchquest	Paid	Punch Quest	No	No	Yes	Yes
1892	com.chillingo.robberybob2.android.gplay	Paid	Robbery Bob 2: Double Trouble	No	Yes	Yes	No
1893	com.corecoders.skitracks	Paid	Ski Tracks	No	No	No	Yes
1894	com.square_enix.android.googleplay.fl_g	Paid	FINAL FANTASY DIMENSIONS	Yes	Yes	Yes	Yes
1895	com.fde.avpevolution	Paid	AVP: Evolution	No	Yes	Yes	No
1896	com.hg.townsmen7	Paid	Townsmen Premium	Yes	No	Yes	N/A
1897	com.abundanthealth4u.refguide4ec	Paid	Ref. Guide for Essential Oils	No	No	No	No
1898	com.Cocosoft.Colosseum	Paid	Colosseum	No	No	Yes	N/A
1899	com.glutenfreegames.catsimulator	Paid	Stray Cat Simulator	No	No	Yes	No
1900	com.chillingo.infearitrust.android.rowgplay	Paid	In Fear I Trust	No	Yes	Yes	Yes
1901	com.adsk.sketchbookhd	Paid	SketchBook Pro	No	Yes	No	Yes
1902	com.algoriddim.djay	Paid	djay 2	No	No	No	Yes
1903	com.wb.goog.starwars.microfighters	Paid	LEGO® Star Wars™ Microfighters	No	Yes	Yes	Yes
1904	com.coffeestainstudios.goatsimulator.mmc	Paid	Goat Simulator MMO Simulator	Yes	No	Yes	Yes
1905	fishnoodle.koipond	Paid	Koi Live Wallpaper	Yes	No	No	N/A
1906	com.runtastic.android.situp.pro	Paid	Runtastic Sit-ups & Abs PRO	Yes	No	No	N/A
1907	com.kb.Carrom3DFull	Paid	Pool Break Pro - 3D Billiards	No	No	Yes	N/A
1908	com.noodlecake.framed	Paid	FRAMED	No	No	Yes	Yes
1909	com.hg.gunsandglory2	Paid	GunsnGlory WW2 Premium	No	No	Yes	N/A
1910	com.rt.hook	Paid	Hook	Yes	No	Yes	No



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1911	com.marvel.runjumpsmash_goc	Paid	Marvel Run Jump Smash!	Yes	Yes	Yes	No
1912	com.polarbit.tankriders	Paid	Tank Riders	No	No	Yes	N/A
1913	com.acceleroto.unpossible	Paid	Unpossible	No	No	Yes	Yes
1914	com.noodlecake.pumped2	Paid	Pumped BMX 2	No	No	Yes	Yes
1915	com.goldsteintech.android	Paid	Skydroid - Golf GPS Scorecard	No	No	No	No
1916	uk.co.yakuto.TableTennisTouch	Paid	Table Tennis Touch	No	No	Yes	Yes
1917	air.com.stoicstudio.BannerSaga	Paid	The Banner Saga	No	No	Yes	Yes
1918	com.period.tracker.deluxe	Paid	Period Tracker Deluxe	Yes	No	No	Yes
1919	com.gameloft.android.ANMP.GloftSDHM	Paid	BackStab	No	No	Yes	Yes
1920	com.fullfat.android.nflkicker2013	Paid	NFL Kicker 13	No	No	Yes	Yes
1921	com.footballguys.Dom2014	Paid	Fantasy Football Dominator 14	No	No	No	Yes
1922	com.turner.jft	Paid	Jumping Finn Turbc	No	Yes	Yes	Yes
1923	com.littleinferno.google	Paid	Little Inferno	No	No	Yes	Yes
1924	com.twoninetydesign.cheatsheet2014	Paid	NFL Fantasy Cheat Sheet 2014	Yes	Yes	No	Yes
1925	fishnoodle.storm	Paid	Thunderstorm Live Wallpaper	No	No	No	N/A
1926	air.com.sarahnorthway.rebuild3	Paid	Rebuild 3: Gangs of Deadsville	No	No	Yes	No
1927	net.jroen.LogoQuizFull	Paid	Logo Quiz full	Yes	No	Yes	N/A
1928	com.wdtinc.android.stormshield	Paid	Storm Shield	No	Yes	No	Yes
1929	com.twoninetydesign.cheatsheet2015	Paid	NFL Fantasy Cheat Sheet 2015	Yes	Yes	No	No
1930	com.younghorses.octodad	Paid	Octodad: Dadliest Catch	No	No	Yes	Yes
1931	com.atypicalgames.sgsr	Paid	Sky Gamblers: Storm Raiders	No	No	Yes	Yes
1932	com.ea.game.fifa12_na	Paid	FIFA 12 by EA SPORTS	Yes	Yes	Yes	N/A
1933	com.beamdog.icewinddale	Paid	Icewind Dale: Enhanced Edition	No	No	Yes	No
1934	info.wobamedia.mytalkingpet.plu	Paid	My Talking Pet	No	No	No	Yes
1935	com.square_enix.android.googleplay.FFV_GF	Paid	FINAL FANTASY V	Yes	Yes	Yes	Yes
1936	com.polarbit.RecklessRacing2	Paid	Reckless Racing 2	No	No	Yes	No
1937	com.disney.docmestuffinscheckup_goc	Paid	Doc McStuffins	No	Yes	No	Yes
1938	tv.justin	Paid	Justin.tv	No	Yes	No	Yes
1939	com.MikaMobile.BattleheartLegacy	Paid	Battleheart Legacy	No	No	Yes	Yes
1940	com.roviostars.tinythief	Paid	Tiny Thief	No	No	Yes	No
1941	com.maxnick.spiderjack	Paid	Spider Jack	Yes	Yes	Yes	N/A
1942	kittehface.unium	Paid	Unium	No	No	Yes	N/A
1943	com.zenstudios.MarvelPinball	Paid	Marvel Pinball	Yes	No	Yes	No
1944	com.oceanhouse_media.bookcatinthehat_app	Paid	The Cat in the Hat - Dr. Seuss	No	No	No	Yes
1945	com.tt2kgames.xcomeu	Paid	XCOM®: Enemy Unknown	No	Yes	Yes	Yes
1946	beril.mootor.gmc	Paid	Gunman Clive	No	No	Yes	Yes
1947	com.daysofwonder.Splendor.gp	Paid	Splendor	No	Yes	Yes	No
1948	com.oceanhouse_media.grinch_app	Paid	How the Grinch Stole Christmas	No	No	No	Yes
1949	com.gameloft.android.ANMP.GloftWWNW	Paid	Wheres Waldo Now?™	No	No	No	N/A
1950	com.noodlecake.waywardsouls	Paid	Wayward Souls	No	No	Yes	Yes
1951	com.dappergentlemen.uglymeter	Paid	Ugly Meter™	Yes	No	No	Yes
1952	com.bowengames.pullingusa	Paid	Pulling USA	Yes	No	Yes	No
1953	com.oceanhouse_media.booklorax_app	Paid	The Lorax - Dr. Seuss	No	No	No	Yes
1954	com.com2us.HG	Paid	HEAVY GUNNER 3D	No	No	Yes	N/A
1955	com.apalon.weatherlive	Paid	Weather Live	No	No	No	Yes
1956	com.hg.aotlpremium	Paid	Aces of the Luftwaffe Premium	Yes	No	Yes	N/A
1957	com.nbcuni.universal.talkingted.ful	Paid	Talking Ted Uncensored	No	Yes	No	No
1958	net.kairosoft.android.pirate_en	Paid	High Sea Saga	No	No	Yes	N/A
1959	com.noodlecake.lasthorizon	Paid	Last Horizon	No	No	Yes	Yes
1960	com.disney.monstersincrun_goc	Paid	Monsters, Inc. Run	No	Yes	Yes	Yes
1961	com.magicnotion.kpmatchmaker	Paid	Kitty Powers Matchmaker	No	No	Yes	Yes
1962	com.fdgentertainment.tentaclewars	Paid	Tentacle Wars	No	No	Yes	Yes
1963	com.seventeenbit.skullsoftshogun	Paid	Skulls of the Shogun	Yes	No	Yes	Yes
1964	com.elevenbitstudios.anomalydefenders	Paid	Anomaly Defenders	No	No	Yes	No
1965	com.hatsproductions.OrganTrail	Paid	Organ Trail: Directors Cut	No	No	Yes	No
1966	com.tt2kgames.xcomew	Paid	XCOM®: Enemy Within	No	Yes	Yes	No
1967	br.com.beholdstudios.knightssp	Paid	Knights of Pen & Paper +1	No	No	Yes	No
1968	com.gameloft.android.ANMP.GloftB3HM	Paid	Block Breaker 3 Unlimited	No	No	No	N/A
1969	com.roadhousegames.carnage	Paid	Warhammer 40,000: Carnage	No	No	Yes	Yes
1970	com.oceanhouse_media.bookleijustforgot_app	Paid	I Just Forgot - Little Critter	No	No	No	N/A
1971	com.disney.ducktalesremastered_goc	Paid	DuckTales: Remastered	Yes	Yes	Yes	No
1972	com.mtvn.oscuraandroid	Paid	Oscura	No	Yes	Yes	N/A
1973	com.chillingo.spyvsspy.android.ajagplay1	Paid	Spy vs Spy	No	Yes	Yes	Yes
1974	com.chillingo.incrediblejack.android.ajagplay1	Paid	Incredible Jack	No	Yes	Yes	N/A
1975	com.jonathantopf.trickshot	Paid	Trick Shot	No	No	Yes	Yes
1976	com.chillingo.fleeceelighting.android.ajagplay1	Paid	Fleece Lightning	No	Yes	Yes	N/A
1977	com.crescentmoongames.ravensword2	Paid	Ravensword: Shadowlands 3d RPG	No	No	Yes	Yes
1978	com.paradoxplaza.kopp2	Paid	Knights of Pen & Paper 2	No	No	Yes	No
1979	com.block.wars	Paid	BLOCK CITY WARS - mini game	No	No	Yes	N/A
1980	com.turner.timetangle	Paid	Time Tangle - Adventure Time	No	Yes	Yes	No
1981	com.monster.pix	Paid	Pixelmon Hunter	No	No	Yes	Yes
1982	com.mlb.RBIBaseball	Paid	R.B.I. Baseball 14	No	Yes	Yes	Yes
1983	com.superphotofull	Paid	SuperPhoto Full	Yes	No	No	No
1984	com.starcommand.scgame	Paid	Star Command	No	No	Yes	Yes
1985	com.mtvn.blazegoogleHD	Paid	Blaze and the Monster Machines	No	Yes	No	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
1986	com.hg.devils	Paid	Devils & Demons Premium	Yes	No	Yes	N/A
1987	com.splashtop.remote	Paid	Splashtop Remote Desktop	Yes	No	No	Yes
1988	com.ravensburgerdigital.puzzle	Paid	Ravensburger Puzzle	No	Yes	Yes	N/A
1989	com.bandainamcoent.pacmancedx	Paid	PAC-MAN CE DX	No	Yes	Yes	No
1990	com.hg.cloudsandsheep	Paid	Clouds & Sheep Premium	No	No	Yes	N/A
1991	com.dotemu.ddtrilogy	Paid	Double Dragon Trilogy	No	No	Yes	Yes
1992	com.daysofwonder.smallworld2	Paid	Small World 2	No	Yes	Yes	N/A
1993	com.miclos.google.games.outthere	Paid	Out There: Ω Edition	No	No	Yes	No
1994	com.disneydigitalbooks.princessstorytheater_goc	Paid	Disney Princess: Story Theater	No	Yes	No	Yes
1995	com.fantasypros.mockdraft.nfl	Paid	Fantasy Football Draft Wizard	No	No	No	No
1996	com.marvel.capinstaller	Paid	Captain America	No	Yes	Yes	Yes
1997	com.zynga.gswfpaid	Paid	What's the Phrase	Yes	Yes	Yes	Yes
1998	com.tocaboca.tocacity	Paid	Toca Life: City	Yes	No	No	Yes
1999	com.chillingo.bloodstroke.android.ajagplay	Paid	Bloodstroke	No	Yes	Yes	N/A
2000	fishnoodle.canabalt	Paid	Canabalt HD	No	No	Yes	Yes
2001	com.tribeplay.pandapet	Paid	Dr. Panda & Totos Treehouse	No	No	Yes	No
2002	com.dictionary.paid	Paid	Dictionary.com Premium	Yes	Yes	No	Yes
2003	jp.co.ponos.mraahh	Paid	Mr.AahH!!	No	No	Yes	N/A
2004	com.reindeercam.player	Paid	ReindeerCam	Yes	No	No	Yes
2005	com.clapfootgames.laserwars	Paid	Tank Hero: Laser Wars Pro	Yes	No	Yes	No
2006	com.namcobandaigames.soulcalibur	Paid	SOULCALIBUR	No	Yes	Yes	Yes
2007	com.activision.callofduty.striketeam	Paid	Call of Duty®: Strike Team	No	Yes	Yes	Yes
2008	org.xtramath.mathfacts	Paid	XtraMath	No	No	No	Yes
2009	com.square.enix.android.googleplay.chrono	Paid	CHRONO TRIGGER	No	Yes	Yes	N/A
2010	com.mapmyrunplus.android2	Paid	Run with Map My Run +	No	No	No	Yes
2011	com.distinctdev.tmt2	Paid	The Moron Test 2	Yes	No	No	Yes
2012	com.team17.flockers	Paid	Flockers	No	No	Yes	N/A
2013	air.com.flipline.papascupcakerialatogc	Paid	Papas Cupcakeria To Go!	No	No	Yes	No
2014	com.disney.checkoutchallenge_goc	Paid	Disney Checkout Challenge	No	Yes	Yes	No
2015	com.P3D.PixelGunPrc	Paid	Pixel Gun 3D PRO Minecraft Ed.	Yes	No	No	Yes
2016	com.mediocre.sprinkle2	Paid	Sprinkle Islands	No	No	Yes	No
2017	com.hg.spsfootball	Paid	SPS: Football Premium	Yes	No	Yes	N/A
2018	net.kairossoft.android.animestudio_en	Paid	Anime Studio Story	No	No	Yes	N/A
2019	com.topfreegames.bikeraceproworld	Paid	Bike Race Pro by T. F. Games	Yes	No	Yes	Yes
2020	com.fitness.challenges	Paid	30 Day Fitness Challenges	Yes	No	No	No
2021	com.gameloft.android.ANMP.GloftTTHM	Paid	The Adventures of Tintin	No	No	Yes	Yes
2022	com.disneydigitalbooks.mickeycountalong_goc	Paid	Mickeys Wildlife Count Along	No	Yes	No	Yes
2023	com.beamdog.baldursgateenhancededition	Paid	Baldurs Gate Enhanced Edition	No	No	Yes	Yes
2024	air.FleeingtheComplex	Paid	Fleeing the Complex	No	No	Yes	N/A
2025	com.vl.infotrax.doterra	Paid	doTERRA	No	Yes	No	No
2026	air.com.sfbgames.HauntTheHouseTerrortown	Paid	Haunt the House: Terrortown	No	No	Yes	No
2027	com.com2us.SniperVsSniper	Paid	Sniper Vs Sniper: Online	No	No	Yes	N/A
2028	com.plexapp.gtv	Paid	Plex for Google TV	Yes	Yes	No	Yes
2029	com.sanriodigital.google.hkOrchard	Paid	Hello Kitty Orchard	Yes	Yes	Yes	N/A
2030	com.sega.sonic4ep2	Paid	Sonic 4 Episode II	Yes	Yes	Yes	Yes
2031	com.chillingo.wakethecat.android.gplayajc	Paid	Wake the Cat	No	Yes	Yes	Yes
2032	com.playstation.counterspy	Paid	CounterSpy™	No	Yes	Yes	No
2033	com.Phosphor.Horn.Paid	Paid	Horn™	No	No	Yes	Yes
2034	com.turner.fcballstars	Paid	Formula Cartoon All Stars	No	Yes	Yes	Yes
2035	com.allappedup.fpl1516	Paid	Fantasy Premier League 2015/16	Yes	No	Yes	Yes
2036	com.twoninetydesign.cheatsheet2013	Paid	NFL Fantasy Cheat Sheet	Yes	Yes	No	N/A
2037	com.turner.grudgeball	Paid	Grudgeball - Regular Show	No	Yes	Yes	No
2038	jp.co.sega.vtc	Paid	Virtua Tennis™ Challenge	No	Yes	Yes	No
2039	com.inkle.eightydays	Paid	80 Days	No	No	Yes	Yes
2040	jp.co.ponos.prism	Paid	PUZZLE PRISM	No	No	Yes	N/A
2041	com.oceanhouse.media.booksmrtrex_app	Paid	Its Tyrannosaurus Rex!	No	No	No	N/A
2042	com.glutenfreegames.snakesimulator	Paid	Snake Simulator	No	No	Yes	No
2043	com.bandainamcoent.tamagotchiclassic	Paid	Tamagotchi Classic - Gen1	No	Yes	Yes	No
2044	com.amtgames.ewtd2	Paid	Epic War TD 2	No	No	Yes	No
2045	com.teamchaos.zombiens	Paid	Rooster Teeth vs. Zombiens	No	No	Yes	No
2046	com.fullfat.android.flicksoccer	Paid	Flick Soccer!	No	No	Yes	Yes
2047	com.captaingames.golf	Paid	Desert Golfing	Yes	No	Yes	No
2048	com.FDGEntertainment.Blueprint3DHD.gr	Paid	Blueprint 3D	No	No	Yes	Yes
2049	com.dotemu.rtype2	Paid	R-TYPE II	Yes	No	Yes	No
2050	com.zeptolab.monsters.paid.google	Paid	Pudding Monsters Premium	No	No	Yes	Yes
2051	com.zenstudios.PortalPinball	Paid	Portal ® Pinball	Yes	No	Yes	N/A
2052	com.sagosago.SpaceExplorer.googleplay	Paid	Sago Mini Space Explorer	No	No	No	Yes
2053	pl.idreams.pottery	Paid	Lets Create! Pottery	No	No	Yes	Yes
2054	com.crescentmoongames.aralonn	Paid	Aralon Sword and Shadow 3d RPG	No	No	Yes	Yes
2055	com.czechgames.galaxytrucker	Paid	Galaxy Trucker	Yes	No	Yes	Yes
2056	com.mtvn.BubbleParty	Paid	SpongeBob Bubble Party	No	Yes	Yes	Yes
2057	com.JoshOCLock.BurnTheCity	Paid	Burn The City	No	No	Yes	Yes
2058	com.gameloft.android.ANMP.GloftAsphalt5.asphalt	Paid	Asphalt	Yes	No	No	N/A
2059	com.foursakenmedia.heroesandcastles2	Paid	Heroes and Castles 2	No	No	Yes	Yes
2060	com.tocaboca.tocanature	Paid	Toca Nature	No	No	No	Yes

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
2061	kemco.wws.soe	Paid	RPG Symphony of Eternity	No	No	Yes	Yes
2062	com.mapmywalkplus.android2	Paid	Map My Walk+ GPS Pedometer	No	No	No	Yes
2063	com.ugroupmedia.pnp2013	Paid	PNP - Portable North Pole 2013	No	No	No	No
2064	com.bbg.tiwdroid	Paid	The Inner World	No	No	Yes	N/A
2065	com.forestmoongames.gearjack	Paid	Gear Jack	No	No	Yes	Yes
2066	com.herocraft.game.full.st.ussr.usa	Paid	Strategy & Tactics:USSR vs USA	No	No	Yes	N/A
2067	uk.co.hellogames.jdtouch	Paid	Joe Danger	No	No	Yes	Yes
2068	com.loadcomplete.deadeyes	Paid	DEAD EYES	No	No	Yes	No
2069	com.overllc.over	Paid	Over	No	No	No	Yes
2070	com.zenstudios.SPPinball	Paid	South Park™: Pinball	Yes	No	Yes	N/A
2071	com.orgoniteapps.builtit3	Paid	Build Battle : Mini game	No	No	Yes	Yes
2072	com.square.enix.chaosrings.googleplay	Paid	CHAOS RINGS	Yes	Yes	Yes	N/A
2073	com.squareenix.tombraider2classic	Paid	Tomb Raider II	No	Yes	Yes	Yes
2074	com.bithack.principia	Paid	Principia	No	No	Yes	N/A
2075	com.disney.PuffleLaunch	Paid	Puffle Launch	No	Yes	No	N/A
2076	com.crescentmoongames.papermonsters	Paid	Paper Monsters	Yes	No	Yes	Yes
2077	com.jakyl.whaletrail	Paid	Whale Trail Classic	No	No	Yes	N/A
2078	com.gamelion.Jeopardy HTCMyTouch3G EN	Paid	Jeopardy!	Yes	Yes	Yes	Yes
2079	com.herocraft.game.musaibox	Paid	Musaic Box: Hidden Object	Yes	No	Yes	N/A
2080	com.polarbit.RecklessRacing	Paid	Reckless Racing	No	No	Yes	N/A
2081	com.areacode.drop7.rev1	Paid	Drop7 by Zynga	Yes	Yes	Yes	N/A
2082	air.com.shirogames.evoland12	Paid	Evoland	No	No	Yes	No
2083	com.mindcandy.sevensecondchallenge	Paid	The 7 Second Challenge	No	No	Yes	Yes
2084	com.square.enix.secret	Paid	Secret of Mana	No	Yes	Yes	N/A
2085	com.morriscooke.explaineverything	Paid	Explain Everything™ Classic	No	No	No	Yes
2086	com.zenstudios.TWDPinball	Paid	The Walking Dead Pinball	Yes	No	Yes	N/A
2087	com.t2ksports.nhl2k15	Paid	NHL 2K	No	Yes	Yes	No
2088	com.elevenbitstudios.AnomalyKorea	Paid	Anomaly Korea	No	No	Yes	N/A
2089	net.kairosoft.android.townshop.en	Paid	Biz Builder Deluxe	No	No	Yes	N/A
2090	com.miniclip.gravityguypak	Paid	Gravity Guy	Yes	Yes	Yes	Yes
2091	air.net.machinarium.Machinarium	Paid	Machinarium	Yes	No	No	Yes
2092	com.crescentmoongames.slingshotracing	Paid	Slingshot Racing	No	No	Yes	Yes
2093	com.jumpgames.pacificrim	Paid	Pacific Rim	No	Yes	Yes	Yes
2094	com.lvlp.buddhify	Paid	buddhify - mindfulness to go	No	No	No	Yes
2095	com.turner.prankwar	Paid	The Great Prank War	No	Yes	Yes	No
2096	com.outfit7.talkingpierre	Paid	Talking Pierre the Parrot	Yes	No	No	Yes
2097	com.aromatools.messentials	Paid	Modern Essentials	No	No	No	No
2098	com.freerange.goosebumps	Paid	Goosebumps Night of Scares	No	No	Yes	No
2099	com.wildtangnet.polarbowleradventure	Paid	Polar Bowler	No	No	Yes	Yes
2100	com.thegamebakers.combocrew	Paid	Combo Crew	No	No	Yes	No
2101	net.kairosoft.android.ninja.en	Paid	Ninja Village	No	No	Yes	N/A
2102	com.toystudio.thecurse	Paid	The Curse	No	No	Yes	Yes
2103	com.mapmyrideplus.android2	Paid	Map My Ride+ GPS Cycling	No	No	No	Yes
2104	com.hg.dynamitefishing	Paid	Super Dynamite Fishing Premium	Yes	No	Yes	N/A
2105	com.thup.lunchbox	Paid	Monkey Preschool Lunchbox	Yes	No	No	Yes
2106	com.glutenfreegames.horsesimulatortwo	Paid	Ultimate Horse Simulator	No	No	Yes	No
2107	com.oceanhouse_media.bookgreeneggsandham_app	Paid	Green Eggs and Ham - Dr. Seuss	No	No	No	Yes
2108	com.beamdog.baldursgateIInhancededition	Paid	Baldurs Gate II	No	No	Yes	Yes
2109	com.elevenbitstudios.anomaly2game	Paid	Anomaly 2	No	No	Yes	Yes
2110	com.garmin.android.apps.viagc	Paid	Garmin viago™	No	No	No	No
2111	com.seven2.pawapp2	Paid	PAW Patrol Pups to the Rescue	No	Yes	Yes	Yes
2112	com.herocraft.game.antraidgame	Paid	Ant Raid	Yes	No	Yes	N/A
2113	com.foursakenmedia.blockfortress	Paid	Block Fortress	No	No	Yes	Yes
2114	com.bigfishgames.hhdsgoogful	Paid	Haunted Hotel: Death (Full)	No	No	Yes	N/A
2115	com.ea.spymouse.na	Paid	SPY mouse	No	Yes	Yes	Yes
2116	com.game.motorsportmanager	Paid	Motorsport Manager Handheld	No	No	Yes	Yes
2117	com.tocaboca.blocks	Paid	Toca Blocks	No	No	Yes	Yes
2118	com.activision.boz	Paid	Call of Duty:Black Ops Zombies	No	Yes	Yes	N/A
2119	com.oceanhouse_media.booksleepbook_app	Paid	Dr. Seuss Sleep Book	No	No	No	N/A
2120	com.frederator.catbug	Paid	Fly Catbug Fly!	No	No	Yes	No
2121	com.hg.farminvasion	Paid	Farm Invasion USA - Premium	No	No	Yes	N/A
2122	com.ooi.android.smb2	Paid	Super Monkey Ball 2: Sakura Ed	Yes	Yes	Yes	N/A
2123	com.FDGEntertainment.BeyondYnth	Paid	Beyond Ynth HD	Yes	No	Yes	N/A
2124	com.playmious.godoflightHD	Paid	God of Light HD	No	No	Yes	Yes
2125	com.hg.savethepuppies	Paid	Save the Puppies Premium	No	No	Yes	N/A
2126	com.ea.simcitydeluxe.na	Paid	SimCity™ Deluxe	No	Yes	No	Yes
2127	com.dotemu.neogeo.mslug3	Paid	METAL SLUG 3	No	No	Yes	No
2128	com.galapagossoft.trialx2_g12	Paid	Trial Xtreme 2	Yes	No	Yes	Yes
2129	com.glutenfreegames.lionsimulatortwo	Paid	Ultimate Lion Simulator	No	No	Yes	No
2130	com.hg.dfwg	Paid	Dynamite Fishing – WG Premium	Yes	No	Yes	N/A
2131	net.stfj.spelltower	Paid	Spelltower	No	No	Yes	Yes
2132	com.ubisoft.adventure.valiant.hearts	Paid	Valiant Hearts: The Great War	No	Yes	Yes	Yes
2133	joybits.doodlegod.hd	Paid	Doodle God™ HD	Yes	No	Yes	Yes
2134	com.ianpidgeon.magicspider	Paid	Magic Spider	No	No	No	No



No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
2135	com.dotemu.rtype	Paid	R-TYPE	Yes	No	Yes	N/A
2136	com.basevelocity.radarscope	Paid	RadarScope	No	No	No	Yes
2137	com.fantage.m.zero	Paid	Zero : A Game of Balance	No	No	Yes	N/A
2138	air.com.amanitadesign.botanacula	Paid	Botanacula	No	No	Yes	Yes
2139	com.elevenbitstudios.SleepwalkersJourneyHD	Paid	Sleepwalkers Journey	No	No	Yes	N/A
2140	com.dejobaangames.awesome	Paid	AaaaaAAaaaAAAAaAAAAaAAAAA!!	No	No	Yes	Yes
2141	com.popcap.peggle na	Paid	Peggle	No	Yes	No	Yes
2142	com.tocaboca.tocatown	Paid	Toca Life: Town	Yes	No	No	Yes
2143	com.nbcuni.nbcports.nbcportstourdefrancelive2015	Paid	NBC Sports Tour de France 2015	No	Yes	No	No
2144	com.bigfishgames.avtsoogoful	Paid	Amaranthine: Torment (Full)	No	No	Yes	N/A
2145	com.laserdog.alone	Paid	ALONE...	No	No	Yes	Yes
2146	com.loudcrow.goingtobed	Paid	The Going to Bed Book-Boynton	No	No	No	N/A
2147	com.oddworl.Munch	Paid	Oddworld: Munchs Oddysee	No	No	Yes	Yes
2148	com.sixtostart.zombies5k	Paid	Zombies, Run! 5k Training	No	No	No	Yes
2149	com.noodlecake.shootingstars	Paid	Shooting Stars!	No	No	Yes	N/A
2150	com.ninjakivi.fortressdestroyer	Paid	Fortress: Destroyer	No	No	Yes	Yes
2151	com.konami.xmen	Paid	X-Men	No	Yes	No	Yes
2152	air.com.richColin.DeepUnderTheSky	Paid	Deep Under the Sky	No	No	Yes	N/A
2153	com.uppercut_games.epoch	Paid	EPOCH	No	No	Yes	Yes
2154	com.mlb.RBIBaseball15	Paid	R.B.I. Baseball 15	No	Yes	Yes	Yes
2155	com.dotemu.raidenlegacy	Paid	Raiden Legacy	Yes	No	Yes	N/A
2156	net.redjumper.bookcreator	Paid	Book Creator	No	No	No	Yes
2157	com.hitcents.drawastickmanepic2	Paid	Draw a Stickman: EPIC 2	Yes	No	Yes	N/A
2158	com.fullfat.android.flicknationsrugby	Paid	Flick Nations Rugby	No	No	Yes	N/A
2159	com.choiceofgames.wiseuseoftime	Paid	A Wise Use of Time	No	No	Yes	No
2160	com.kurechii.tinyguardians	Paid	Tiny Guardians	No	No	Yes	No
2161	com.nitrome.icebreaker	Paid	Icebreaker: A Viking Voyage	No	No	Yes	Yes
2162	com.f2zentertainment.pandemic	Paid	Pandemic: The Board Game	No	No	Yes	Yes
2163	com.ootpdevelopments.mlbm2015	Paid	MLB Manager 2015	No	No	Yes	No
2164	com.whirlscape.minuumkeyboardc	Paid	Minuum Keyboard + Smart Emoji	No	No	No	No
2165	com.ugly.meter	Paid	Ugly Meter	Yes	No	No	Yes
2166	com.rovio.amazingalexHD	Paid	Amazing Alex HD	Yes	No	Yes	No
2167	com.gameloft.android.ANMP.GloftACRE	Paid	Assassin's Creed® Revelations	Yes	No	Yes	N/A
2168	com.loudcrow.moobaa	Paid	Moo, Baa, La La La! - Boynton	No	No	No	N/A
2169	com.noodlecake.towerdwellers	Paid	Tower Dwellers	Yes	No	Yes	N/A
2170	com.chillingo.drawrace2gplay.android.ajs	Paid	Draw Race 2	No	Yes	No	N/A
2171	com.webprancer.google.garfieldescape	Paid	Garfields Escape Premium	Yes	No	Yes	N/A
2172	jp.gungho.dokuro	Paid	Dokuro	No	No	Yes	Yes
2173	com.cloudmosa.puffin	Paid	Puffin Browser Pro	No	No	No	Yes
2174	com.halfbrick.gamenight	Paid	Hollywood Game Night	No	No	Yes	No
2175	com.oceanhouse_media.bookohtheplaces_app	Paid	Oh, the Places You'll Go!	No	No	No	N/A
2176	com.square_enix.android.googleplay.dq2_gr	Paid	DRAGON QUEST II	Yes	Yes	Yes	No
2177	com.nomadgames.talisman	Paid	Talisman	No	No	Yes	Yes
2178	com.fatchickenstudios.my21dayfixtracker	Paid	21 Day Fitness Tracker	No	No	No	Yes
2179	net.kairosoft.android.noodle_en	Paid	The Ramen Sensei	No	No	Yes	N/A
2180	com.eyeaappsllc.prohdr	Paid	Pro HDR Camera	Yes	No	No	Yes
2181	com.bigfishgames.gtbgmgoogful	Paid	Grim Tales: Bloody Mary (Full)	No	No	Yes	N/A
2182	com.twoninetydesign.cheatsheet2012	Paid	NFL Fantasy Cheat Sheet	Yes	Yes	No	N/A
2183	com.crescentmoongames.almightree	Paid	Almightree: The Last Dreamer	No	No	Yes	N/A
2184	com.bigfishgames.shiverlrgoogful	Paid	Shiver: Lilys Requiem (Full)	No	No	Yes	N/A
2185	com.turner.mixelrush	Paid	Mixels Rush	No	Yes	Yes	No
2186	com.hg.gunsandglory4	Paid	GunsnGlory Zombies Premium	No	No	Yes	N/A
2187	com.madfingergames.SamuraiIIAI	Paid	Samurai II: Vengeance	No	No	Yes	N/A
2188	com.snkplaymore.android012	Paid	FATAL FURY SPECIAL	No	No	Yes	N/A
2189	com.bigfishgames.llirgoogful	Paid	Living Legends: Ice Rose Full	No	No	Yes	N/A
2190	org.ubisoft.premium.POPClassic	Paid	Prince of Persia Classic	Yes	Yes	Yes	Yes
2191	com.glutenfreegames.dragonsimulatortwc	Paid	Ultimate Dragon Simulator	No	No	Yes	No
2192	com.chillingo.harrythefairy.android.ajagoogpleay	Paid	Harry The Fairy	No	Yes	Yes	N/A
2193	com.fullfat.android.quarterback13	Paid	NFL Quarterback 13	No	No	Yes	Yes
2194	com.apalon.pimpyourscreen	Paid	Widgets by Pimp Your Screen	No	No	No	Yes
2195	com.icandiapps.thenightsky	Paid	The Night Sky™	Yes	No	No	Yes
2196	com.pixite.fragment	Paid	Fragment	No	No	No	Yes
2197	com.pixelbite.r3	Paid	Reckless Racing 3	No	No	Yes	Yes
2198	uk.co.pixelspill.katak.android	Paid	KatataK	No	No	Yes	No
2199	com.boondogglestudios.sillywalks	Paid	The Ministry of Silly Walks	No	No	Yes	No
2200	com.chillingo.feedmeoil2.android.rowgplay	Paid	Feed Me Oil 2	Yes	Yes	Yes	Yes
2201	com.bigfishgames.lolwhgoogful	Paid	League: Wicked Harvest (Full)	No	No	Yes	Yes
2202	com.scea.entwined	Paid	Entwined™ Challenge	No	Yes	Yes	No
2203	com.duduapps.craigslispro	Paid	City Shop - Craigslis App	Yes	No	No	No
2204	com.smugmug.android.cameraawesome	Paid	Camera Awesome	No	No	No	Yes
2205	com.mobisystems.fonts	Paid	OfficeSuite Font Pack	Yes	No	No	N/A
2206	com.oceanhouse_media.bookonefishtwofish_app	Paid	One Fish Two Fish - Dr. Seuss	No	No	No	N/A
2207	com.bigfishgames.solngoogful	Paid	Nemesis: Hidden Objects (Full)	No	No	Yes	N/A
2208	com.butterfingerdirty	Paid	Buttafyngas Dirty	No	No	No	No
2209	com.camelgames.blowup	Paid	Blow Up	No	No	Yes	N/A

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
2210	com.microsoft.Kinectimals	Paid	Kinectimals	Yes	Yes	Yes	N/A
2211	com.coldbeamgames.beathazardultragoogleful	Paid	Beat Hazard Ultra	No	No	Yes	Yes
2212	com.scripps.android.foodnetwork	Paid	Food Network In the Kitchen	No	Yes	No	Yes
2213	air.com.arkadium.twistyhollow	Paid	Twisty Hollow	No	No	Yes	Yes
2214	com.playfirst.playground.cookingdashdeluxe	Paid	Cooking Dash Deluxe	Yes	No	Yes	N/A
2215	it.rortos.f18carrierlanding	Paid	F18 Carrier Landing	No	No	Yes	Yes
2216	com.exozet.game.carcassonne	Paid	Carcassonne	Yes	No	Yes	Yes
2217	com.fds.infiniteflight	Paid	Infinite Flight Simulator	Yes	No	Yes	Yes
2218	com.joybits.doodlekingdom	Paid	Doodle Kingdom	Yes	No	Yes	No
2219	com.xcosoftware.nationalzoo	Paid	Smithsonian's National Zoo	No	No	No	Yes
2220	com.choiceofgames.versus1	Paid	VERSUS: The Lost Ones	No	No	Yes	N/A
2221	com.vlambeer.RidiculousFishing	Paid	Ridiculous Fishing	No	No	Yes	Yes
2222	com.aerofly.aerofly2android	Paid	Aerofly 2 Flight Simulator	No	No	Yes	Yes
2223	com.snkplaymore.android009	Paid	THE RHYTHM OF FIGHTERS	No	No	Yes	N/A
2224	joybits.doodlegod.pixel	Paid	Doodle God: 8-bit Mania	Yes	No	Yes	N/A
2225	com.gamelion.WheelOfFortune	Paid	Wheel of Fortune	Yes	Yes	No	No
2226	com.glitchsoft.xmen1	Paid	X-Men: Days of Future Past	No	No	Yes	Yes
2227	com.piksoft.turboscan	Paid	TurboScan: document scanner	Yes	No	No	Yes
2228	com.bbtv.fermanfloo	Paid	Fernanfloo	No	Yes	Yes	No
2229	com.turner.treasurefetch	Paid	Treasure Fetch: Adventure Time	No	Yes	Yes	Yes
2230	com.glutenfreegames.falconsimulator	Paid	Falcon Simulator	No	No	Yes	No
2231	com.bitbybitstudios.fiz	Paid	Fiz : Brewery Management Game	Yes	No	Yes	No
2232	com.whitewhalegames.godofblades	Paid	God of Blades	No	No	Yes	Yes
2233	com.playhome.school	Paid	My PlayHome School	No	No	Yes	Yes
2234	com.turner.mixels	Paid	Calling All Mixels	No	Yes	Yes	Yes
2235	com.ea.twpgatour12_NA	Paid	Tiger Woods PGA TOUR® 12	No	Yes	Yes	Yes
2236	com.noodlecake.magegauntlet	Paid	Mage Gauntlet	No	No	Yes	N/A
2237	ch.threema.app	Paid	Threema	Yes	No	No	Yes
2238	com.sonymobile.themes.mickeymouse	Paid	XPRIA™ Mickey Mouse Theme	No	Yes	No	N/A
2239	com.audubon.mobile.android	Paid	Audubon Birds of North America	No	No	No	Yes
2240	com.ubisoft.mightandmagic.clashofheroes	Paid	M&M Clash of Heroes	No	Yes	Yes	Yes
2241	com.square_enix.android_googleplay.dq3_gr	Paid	DRAGON QUEST III	Yes	Yes	Yes	No
2242	com.bigfishgames.fchgoogful	Paid	Final Cut: Homage CE (Full)	No	No	Yes	N/A
2243	com.pixelsontoast.impossibleroad	Paid	IMPOSSIBLE ROAD	Yes	No	Yes	Yes
2244	com.wickeyware.minesofmars	Paid	Mines of Mars Scifi Mining RPG	No	No	Yes	Yes
2245	com.crescentmoongames.deergod	Paid	The Deer God	No	No	Yes	N/A
2246	com.hg.ninjaheroescats	Paid	Ninja Hero Cats Premium	No	No	Yes	N/A
2247	com.nbci.nbcunibcspn.nbcspn.tourdefrancelive2014	Paid	NBC Sports Tour de France Live	No	Yes	No	No
2248	net.mobigame.edge.extended	Paid	EDGE Extended	No	No	Yes	Yes
2249	org.hostedgames.studyinsteampunk	Paid	A Study in Steampunk	No	No	Yes	N/A
2250	com.the3d4medical.EssentialAnatomy	Paid	Essential Anatomy 3	No	No	No	Yes
2251	com.twoxelgames.mxmatchup	Paid	Ricky Carmichaels Motocross	No	No	Yes	Yes
2252	com.tocaboca.tocakitchen	Paid	Toca Kitchen	Yes	No	No	Yes
2253	com.bigfishgames.otliagoogful	Paid	Off the Record: Italian (Full)	No	No	Yes	N/A
2254	steelersradio.activities	Paid	Pittsburgh Football Radio	No	No	No	N/A
2255	com.hiddenvariable.bagit	Paid	Bag It!	No	No	Yes	Yes
2256	com.sega.zaxxonescape	Paid	Zaxxon Escape	No	Yes	Yes	No
2257	com.outfit7.talkingnews	Paid	Talking Tom & Ben News	Yes	No	No	Yes
2258	com.whatbird.pro	Paid	iBird Pro North America	No	No	No	Yes
2259	com.bigfishgames.cspingogful	Paid	Christmas: Puss in Boots Full	No	No	Yes	Yes
2260	com.dotemu.neogeo.mslug	Paid	METAL SLUG	No	No	Yes	N/A
2261	com.and.games505.chimpact2	Paid	Chimpact 2 Family Tree	Yes	No	Yes	Yes
2262	com.elevenbitstudios.FunkySmuggler	Paid	Funky Smugglers	No	No	Yes	N/A
2263	com.vl.infotrax.lifevantage	Paid	LifeVantage	No	Yes	No	No
2264	com.sonymobile.themes.toystorybuzz	Paid	XPRIA™ Toy Story Buzz Theme	No	Yes	No	N/A
2265	com.zenstudios.AmericanDadPinball	Paid	American Dad! Pinball	Yes	No	Yes	N/A
2266	com.sticktixing.gifshare	Paid	Stick Texting-The Emoji Killer	No	No	No	Yes
2267	cc.fuze.forks	Paid	Forks Over Knives - Recipes	No	No	No	Yes
2268	com.bigfishgames.hetcosgoogful	Paid	HE: The Crown of Solomon Full	No	No	Yes	N/A
2269	com.hg.sdl	Paid	Stage Dive Legends Premium	Yes	No	Yes	N/A
2270	com.ender.android	Paid	Enderman - Minecraft Edition	No	No	No	No
2271	com.lisbonlabs.faceinhole	Paid	FACEinHOLE® - Premium	Yes	No	No	Yes
2272	com.webprancer.google.homesweetgarfield	Paid	Home Sweet Garfield Live WP	No	No	No	N/A
2273	com.rocketmobile.abeautifulmess	Paid	A Beautiful Mess	Yes	No	No	Yes
2274	com.cycloramic.cycloramic	Paid	Cycloramic PRO 360 Panorama	No	No	No	No
2275	radio.activities	Paid	Pro Football Radio	No	No	No	Yes
2276	com.disneydigitalbooks.minniebowmaker_goc	Paid	Minnie Bow Maker	No	Yes	No	Yes
2277	com.oceanhouse_media.bookabcs_app	Paid	Dr. Seuss ABC	No	No	No	N/A
2278	com.sixtostart.superheroworkout	Paid	7 Minute Superhero Workout	Yes	No	No	Yes
2279	com.ubisoft.princeofpersia.shadowandflame.ggr	Paid	Prince of Persia Shadow&Flame	Yes	Yes	Yes	No
2280	com.tmssoft.whitenoise.full	Paid	White Noise	Yes	No	No	Yes
2281	fishnoodle.clock	Paid	Clock Tower 3D Live Wallpaper	No	No	No	N/A
2282	com.square_enix.android_googleplay.dq8	Paid	DRAGON QUEST VIII	Yes	Yes	Yes	No
2283	com.allappedup.fpl1415	Paid	Fantasy Premier League 2014/15	Yes	No	No	Yes
2284	com.GigaBitGames.Ultra4OffroadRacing	Paid	ULTRA4 Offroad Racing	No	No	Yes	No

No. (a)	Package Name (b)	App Type (c)	App Name (d)	App Has Microsoft Counterpart (e)	Corporate App (f)	Non-Java Gaming App (g)	App First Launched on iOS (h)
2285	com.sonymobile.themes.frozenancing	Paid	XPERIA™ Frozen Dancing Theme	No	Yes	No	N/A
2286	com.mageeks.android.farmingpro2015	Paid	Farming PRO 2015	No	No	Yes	Yes
2287	fishnoodle.flag	Paid	NA Flags Live Wallpaper	No	No	No	N/A
2288	com.choiceofgames.champion	Paid	Champion of the Gods	No	No	Yes	N/A
2289	com.mapswithme.maps.prc	Paid	MAPS.ME - GPS Navigation & Map	No	No	No	Yes
2290	com.wkc.WKCAp2015	Paid	WKC Dog Show 2015	No	No	No	Yes
2291	com.stainlessgames.carmageddon	Paid	Carmageddon	No	No	Yes	Yes
2292	com.harebrainedschemes.dragonfall	Paid	Shadowrun: Dragonfall - DC	No	No	Yes	N/A
2293	com.mapmyfitnessplus.android2	Paid	MapMyFitness+ Workout Trainer	No	No	No	Yes
2294	com.zenstudios.ArcherPinball	Paid	Archer Pinball	Yes	No	Yes	N/A
2295	com.inxile.Choplifter HD	Paid	Choplifter HD	No	No	Yes	N/A
2296	com.gamehouse.d6gp	Paid	Delicious - Childhood Memories	No	Yes	Yes	N/A
2297	net.kairossoft.android.restaurant en	Paid	Cafeteria Nipponica	No	No	Yes	No
2298	com.TimeTraks	Paid	TimeTraks	No	No	No	Yes
2299	com.gravitytraingames.santatrackerlite	Paid	Santa Tracker - NPCC	Yes	No	No	Yes
2300	com.instapaper.android	Paid	Instapaper	No	No	No	Yes
2301	com.instadm.android	Paid	instaDM	No	No	No	Yes
2302	com.vitotechnology.StarWalk2	Paid	Star Walk 2 - Night Sky Guide	Yes	No	No	Yes
2303	com.square_enix.android_googleplay.finalfantasy	Paid	FINAL FANTASY	Yes	Yes	Yes	N/A
2304	com.hg.frozenfront	Paid	1941 Frozen Front Premium	Yes	No	Yes	N/A
2305	com.disney.lostlight goc	Paid	Lost Light	No	Yes	Yes	No
2306	com.choiceofgames.psyhigh	Paid	Psy High	No	No	Yes	No
2307	com.sonymobile.themes.mickeywintei	Paid	XPERIA™ Mickey Winter Theme	No	Yes	No	N/A
2308	com.fasterthanmonkeys.iscore	Paid	iScore Baseball/Softball	No	No	No	Yes
2309	com.thomasbowker.lynerelase	Paid	LYNE	No	No	Yes	No
2310	com.tocaboca.tocapetdoctor	Paid	Toca Pet Doctor	No	No	No	Yes
2311	com.square_enix.android_googleplay.FF4AY GF	Paid	FINAL FANTASY IV: AFTER YEARS	Yes	Yes	Yes	N/A
2312	com.explorationbase.Exploration	Paid	Exploration	Yes	No	Yes	Yes
2313	com.bulkyipix.typerider	Paid	TypeRider	No	No	Yes	No
2314	com.wb.goog.lnjgo	Paid	LEGO® Ninjago: Shadow of Ronin	No	Yes	Yes	Yes
2315	net.kairossoft.android.daishizen en	Paid	Fish Pond Park	No	No	Yes	N/A
2316	com.hg.gunsandglory3	Paid	GunsnGlory Heroes Premium	No	No	Yes	N/A
2317	com.pocketparadox.iFlux	Paid	Flux Capacitor	No	No	No	Yes
2318	com.namcowireless.flightcontrol	Paid	Flight Control	No	Yes	Yes	Yes
2319	com.rotowire.footballdraftkit2015	Paid	Fantasy Football Draft Kit 15	No	No	No	Yes
2320	com.choiceofgames.citysthrst	Paid	Deathless: The Citys Thirst	No	No	Yes	N/A
2321	com.kumobius.android.game	Paid	Beans Quest	No	No	Yes	Yes
2322	com.shortbreakstudios.hr	Paid	Hellraid: The Escape	No	No	Yes	Yes
2323	com.rotwire.nfl2014.DraftKit	Paid	Fantasy Football Draft Kit 14	No	No	No	Yes
2324	com.jjacrappllc.nflradiolive	Paid	Pro Football Radio & Scores	No	No	No	Yes
2325	com.godzilab.ibm2	Paid	iBlast Moki 2	Yes	No	Yes	N/A
2326	com.grapefrukt.games.rymdkapsel1	Paid	rymdkapsel	No	No	Yes	No
2327	com.limbic.towermadness2	Paid	Tower Madness 2: 3D Defense	No	No	Yes	No
2328	com.pixelbite.mutant	Paid	Xenowerk	No	No	Yes	Yes
2329	com.sonosaurus.tonalenergytuner	Paid	TonalEnergy Tuner	No	No	No	Yes
2330	net.kairossoft.android.school2 en	Paid	Pocket Academy	No	No	Yes	N/A
2331	com.tocaboca.tocabuild	Paid	Toca Builders	Yes	No	No	Yes
2332	com.sonymobile.themes.goofy	Paid	XPERIA™ Goofy Theme	No	Yes	No	N/A
2333	com.threeminutegames.lifeline2.goo	Paid	Lifeline 2	No	No	Yes	Yes
2334	com.choiceofgames.ratingswar	Paid	Ratings War	No	No	Yes	N/A
2335	com.echobrown.lachancla	Paid	La Chancla	No	No	Yes	No
2336	com.SmartBomb.AJJump	Paid	AJ Jump: Animal Jam Kangaroos	No	No	Yes	No
2337	com.ravensburgerdigital.sanjuan	Paid	San Juan	No	Yes	Yes	Yes
2338	com.ati.mobilementor.androidic	Paid	ATI RN Mentor - NCLEX Prep	Yes	No	No	Yes
2339	com.ui.LapseltPro	Paid	Lapse It • Time Lapse • Pro	No	No	No	No
2340	com.tl1.skyview	Paid	SkyView® Explore the Universe	Yes	No	No	Yes
2341	com.littlelabs.themartian	Paid	The Martian: Bring Him Home	No	No	Yes	No
2342	com.headupgames.bridgeconstructorstunts	Paid	Bridge Constructor Stunts	Yes	No	Yes	Yes
2343	com.booksofdiscovery.anatomymapp	Paid	AnatomyMapp	No	No	No	Yes
2344	com.sega.ssasr	Paid	Sonic & SEGA All-Stars Racing	No	Yes	Yes	Yes

Notes: The list of apps are those excluded from Dr. Kearl's Scenario 3 analysis.

The apps shown in the above list are ranked according to total downloads over the 2012-2015 time period according to App Annie's database.

An app has a Microsoft counterpart if there is a matching app in the Windows Phone Store.

An app is a corporate app if its developer company has other lines of business outside of mobile and has brand recognition.

Programming languages are identified by Google and from Top Android Applications Languages in the Export Report of Dr. Cox.

In column (h) entries with N/A indicate that the app is not dual-homed.

Sources: App Annie market data subscription, last accessed March 26, 2016.

"AppAnnie Daily DNA Data," App Annie, January 26, 2016.

Exhibit 1b and Exhibit 1c, Corrected Expert Report of Dr. Cox, October 3, 2011.